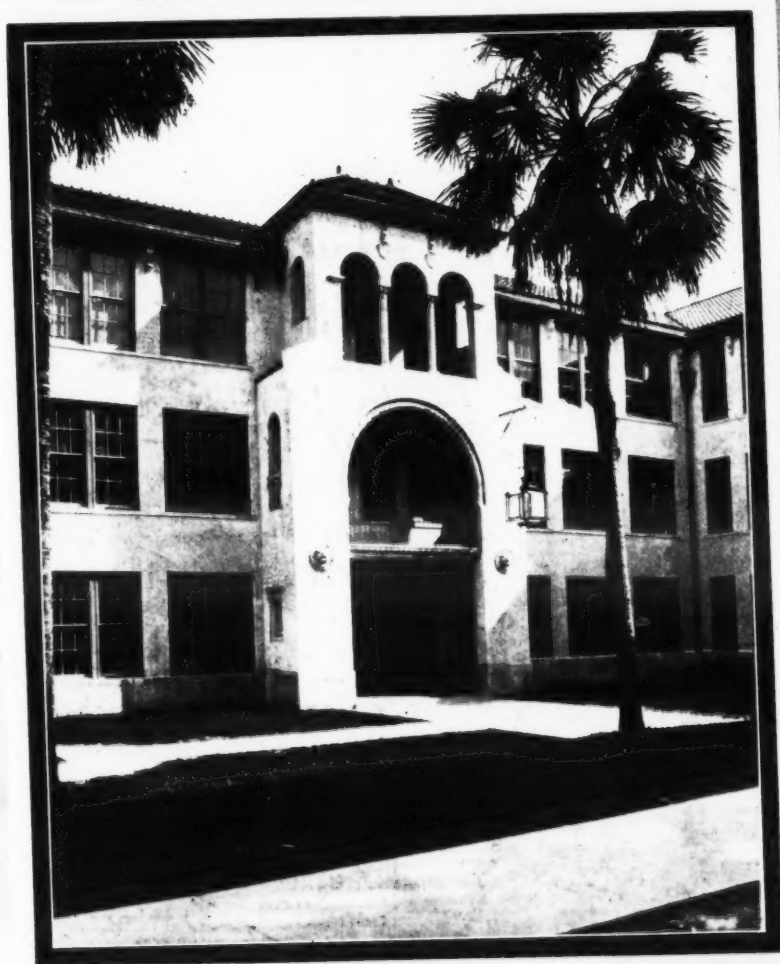


THE AMERICAN

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A Periodical of School Administration



AUGUST
1931

THE BRUCE PUBLISHING COMPANY
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Vogel Number Ten-A Seat-Action Closet Combination.
Can be supplied with syphon action, or syphon jet bowl.

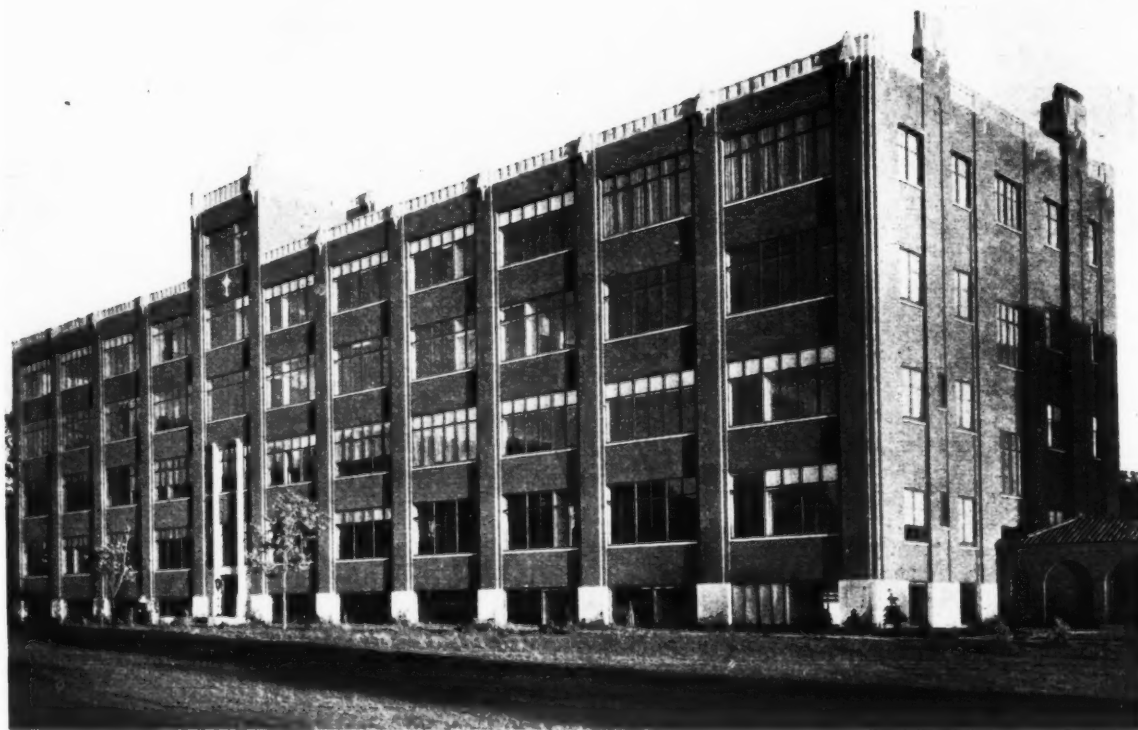
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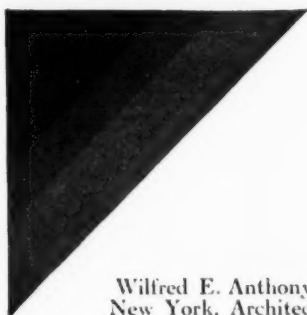
**ST. CATHERINE COLLEGE***St. Paul, Minnesota*

WALTER H. BUTLER COMPANY, ARCHITECTS
ST. PAUL, MINN.

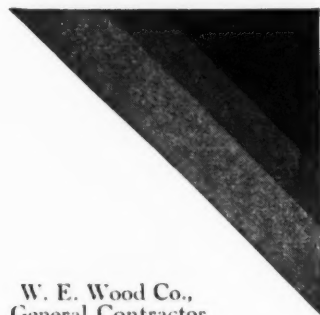
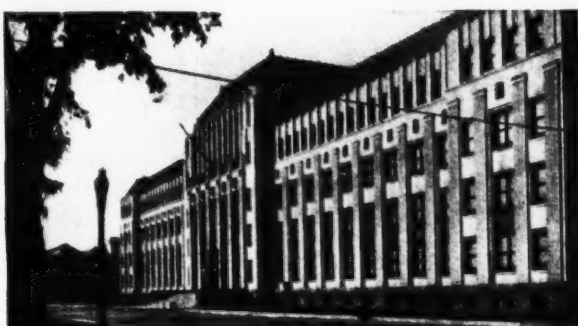
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**NATURAL SLATE BLACKBOARD COMPANY***Department D-8, Pen Argyl, Pennsylvania*



Wilfred E. Anthony,
New York, Architect.



W. E. Wood Co.,
General Contractor.

How Johnson Control Operates In The Dun Scotus Seminary and Chapel

The Dun Scotus Seminary and Chapel, Detroit, Michigan, are equipped with The Johnson Dual System of Heat & Humidity Control . . . one temperature for occupied periods of each room, and a lower or economy temperature during unoccupied periods. There are thirteen Johnson Dual Switches, dividing the building into thirteen sections, so that it is possible to control each section, or department of the building, individually or independently of the entire system . . . cutting on normal temperature in unoccupied sections, at night for example.

The heating of the seminary is a combination of Unit Heaters and Direct Radiation. There are 31 Johnson Dual Wall Thermostats in the seminary, controlling valves on the room radiators and the mixing dampers in the Unit Heaters. The fresh air dampers on the Unit Heaters are controlled by Johnson Hot Water Thermostats, and by a Johnson Electric Pneumatic

Switch which automatically shuts off the fresh air damper when the fan motor is stopped.

The chapel is heated by a combination of Central Fan and Direct Radiation. There are 13 Johnson Dual Wall Thermostats controlling the valves on the direct radiators. Also, the central fan equipment for the chapel is controlled by a Johnson Duct Type Hot Water Thermostat, operating on hot water coil. The fresh air, return air and vent dampers of the chapel's ventilation system are controlled by another Johnson Hot Water Thermostat . . . in such a way that the temperature of the fresh air shaft is not permitted to get below 40°F., with the fresh air damper automatically closing when the fan motor is stopped in order to prevent the freezing of the coils.

JOHNSON SERVICE COMPANY

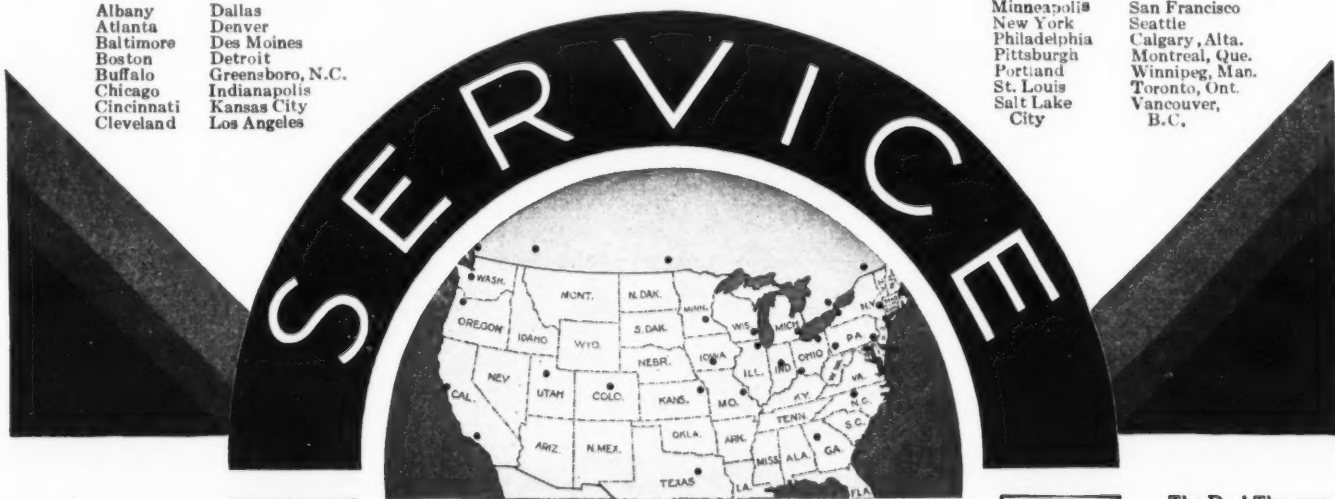
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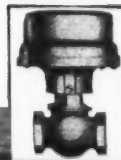
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For many years science has recognized that the most important factors in ventilation are temperature, air motion, and humidity. But nothing was done about it. Ventilating systems continued to be based on the assumption that it was necessary to supply outside air continuously to the schoolroom. This, of course, raised fuel costs excessively and necessitated the use of large boilers.

Today, however, even better ventilation may be obtained at much less cost. The Her-Nel-Co Ventilator only uses outside air when necessary and in amounts required to remove excess body heat and odors. The outdoor air that is admitted is not preheated, but is tempered through intermixture with room air.

School authorities, engineers, and architects are invited to write for the book, "The Her-Nel-Co System of Ventilation". It shows how schools may obtain better ventilation with a saving of 50% in fuel cost, and a definite lowering of building costs.

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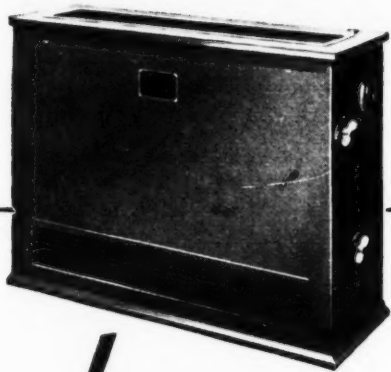
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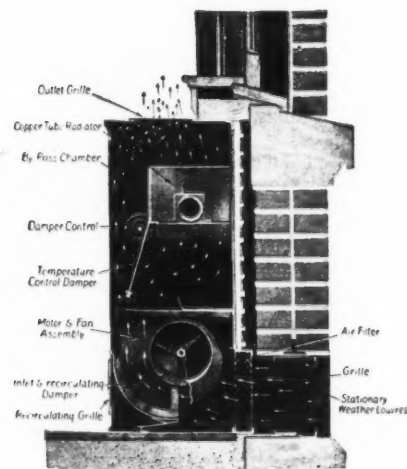
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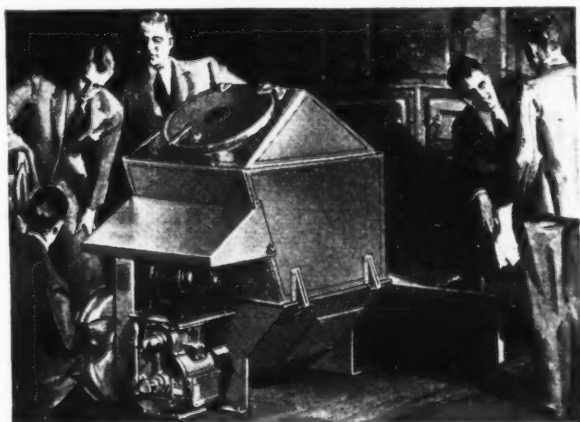
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★High School, Glenwood, Minn. "Yearly fuel savings with Iron Fireman amount to \$1321.94. In addition we have been able to discontinue the use of one boiler. Our janitor has more time for other duties. Iron Fireman is one of the best investments we have ever made."



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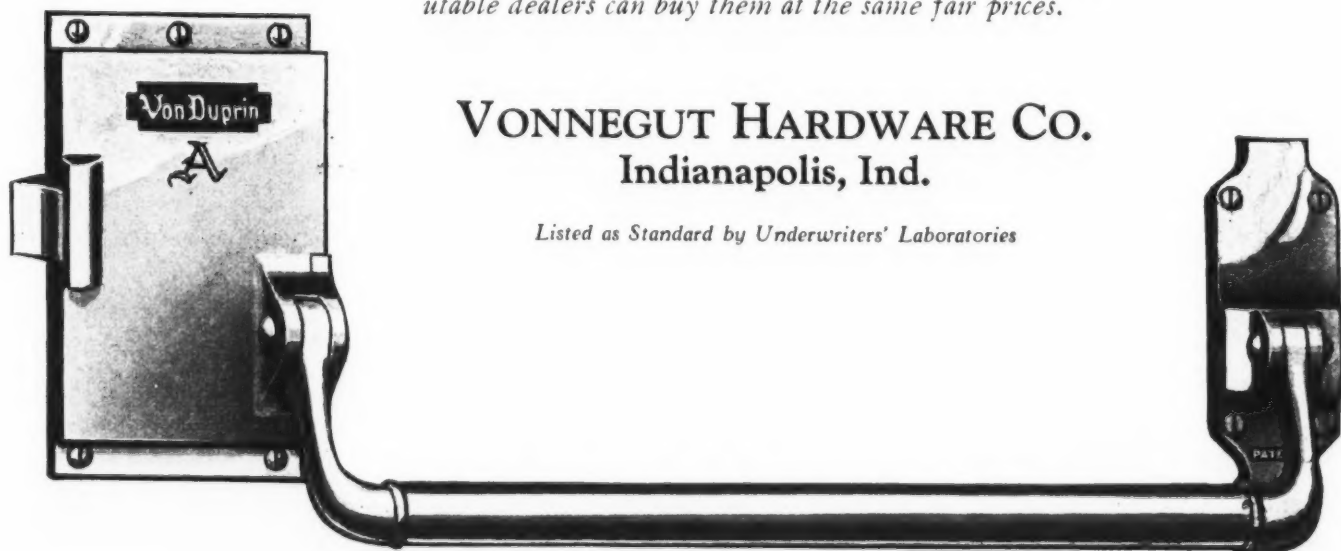
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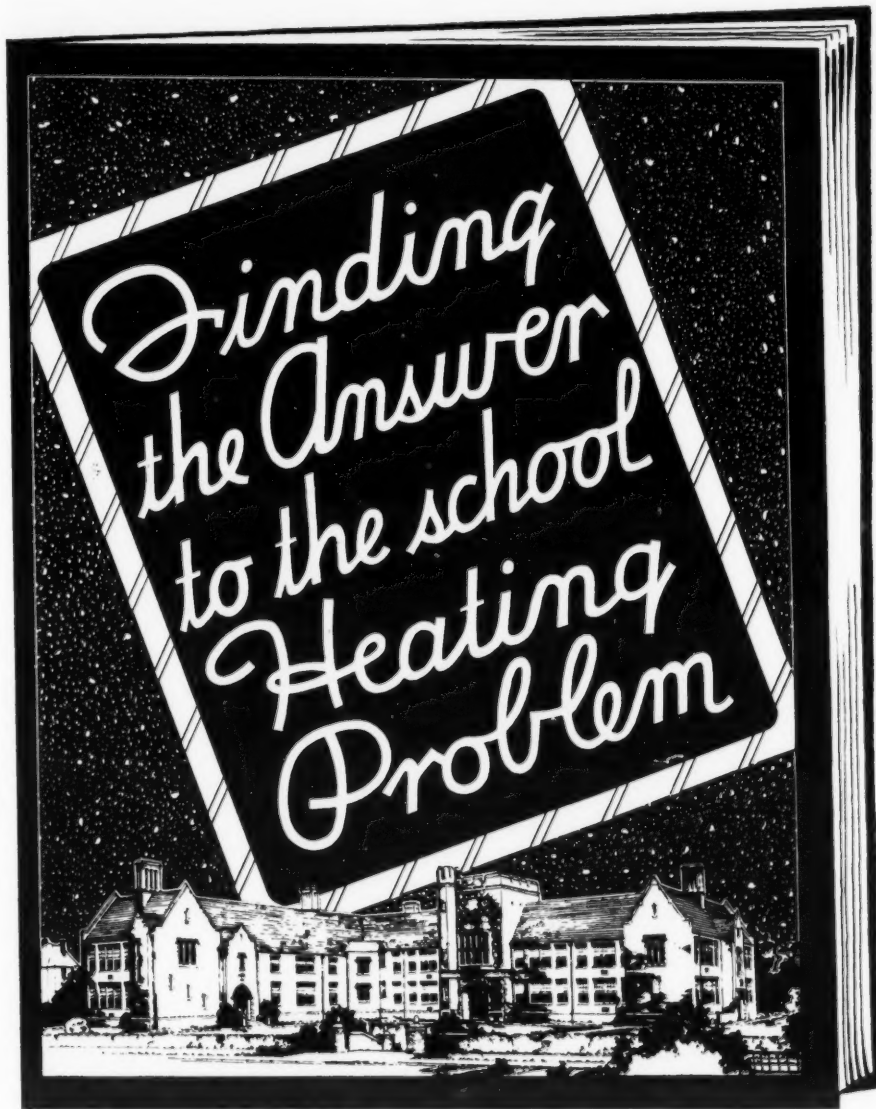
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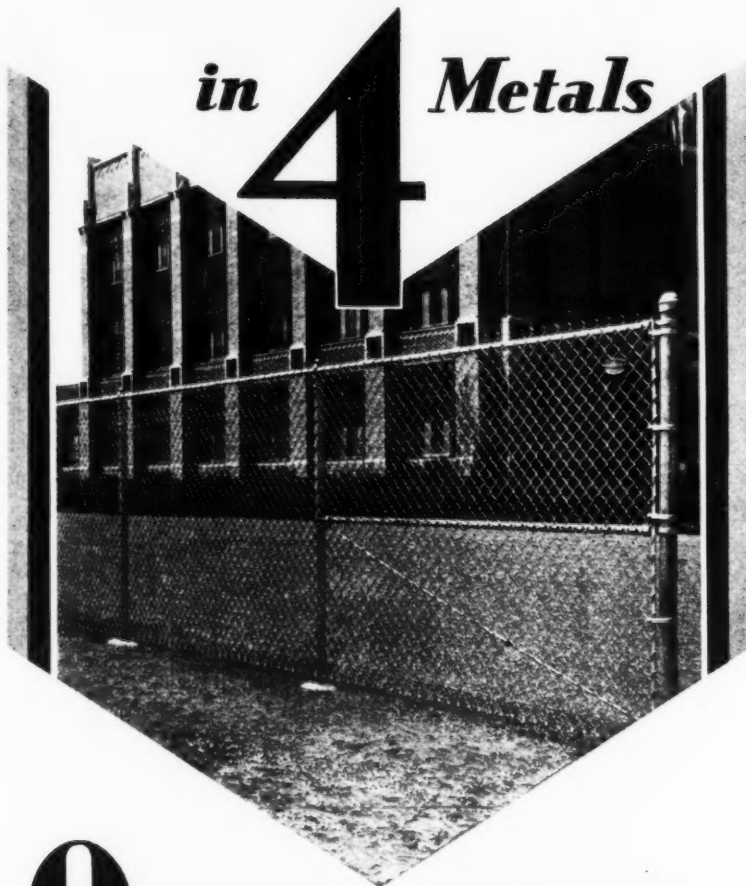
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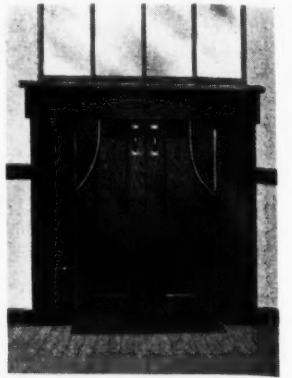
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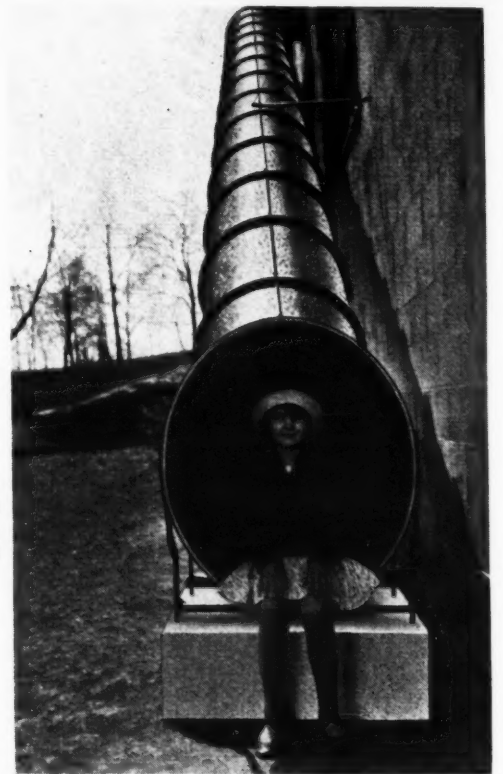
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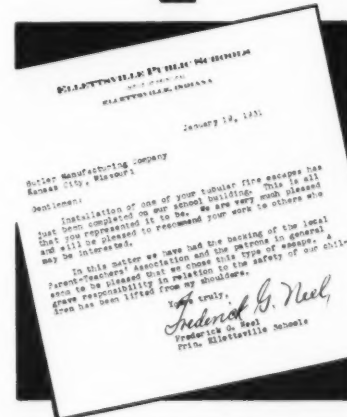
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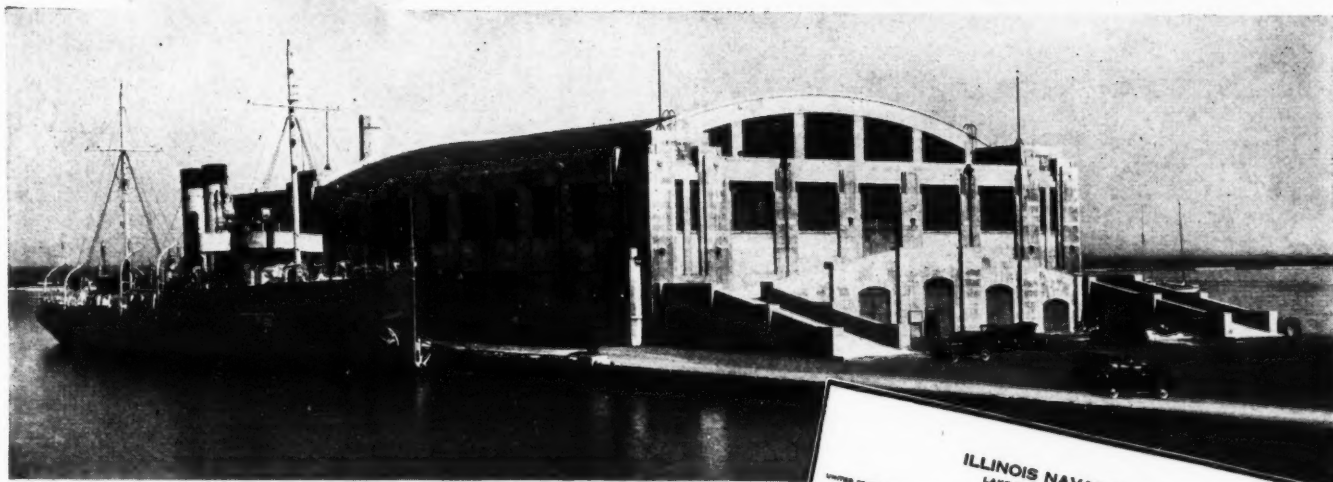
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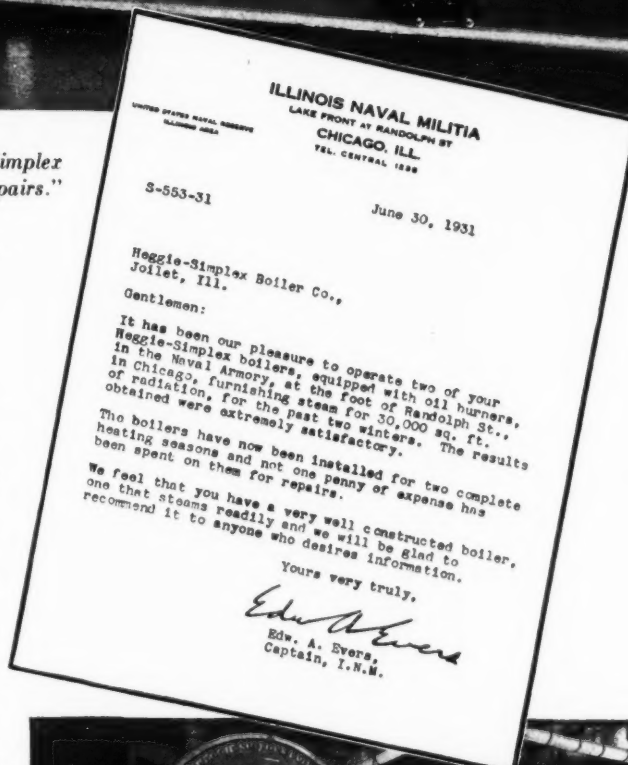
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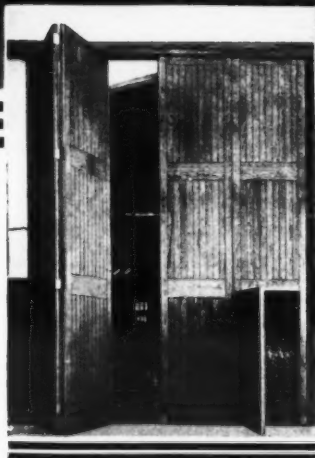


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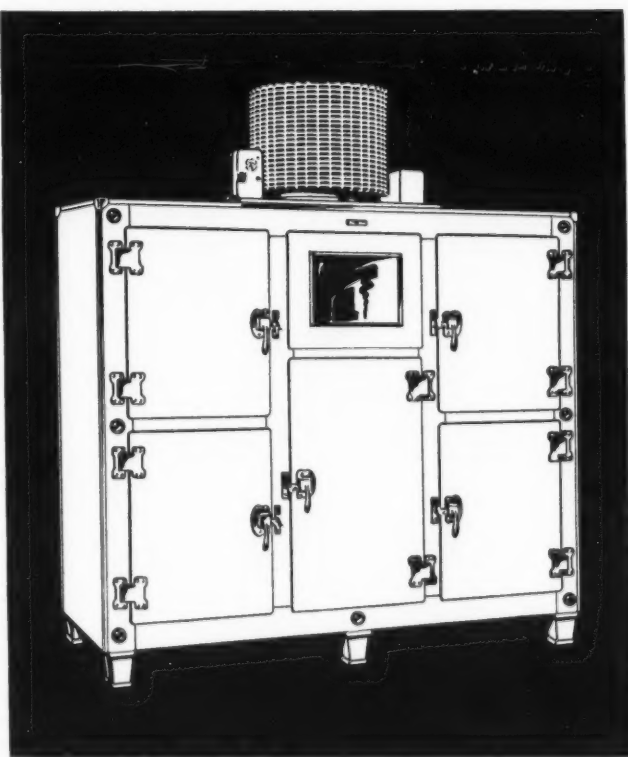
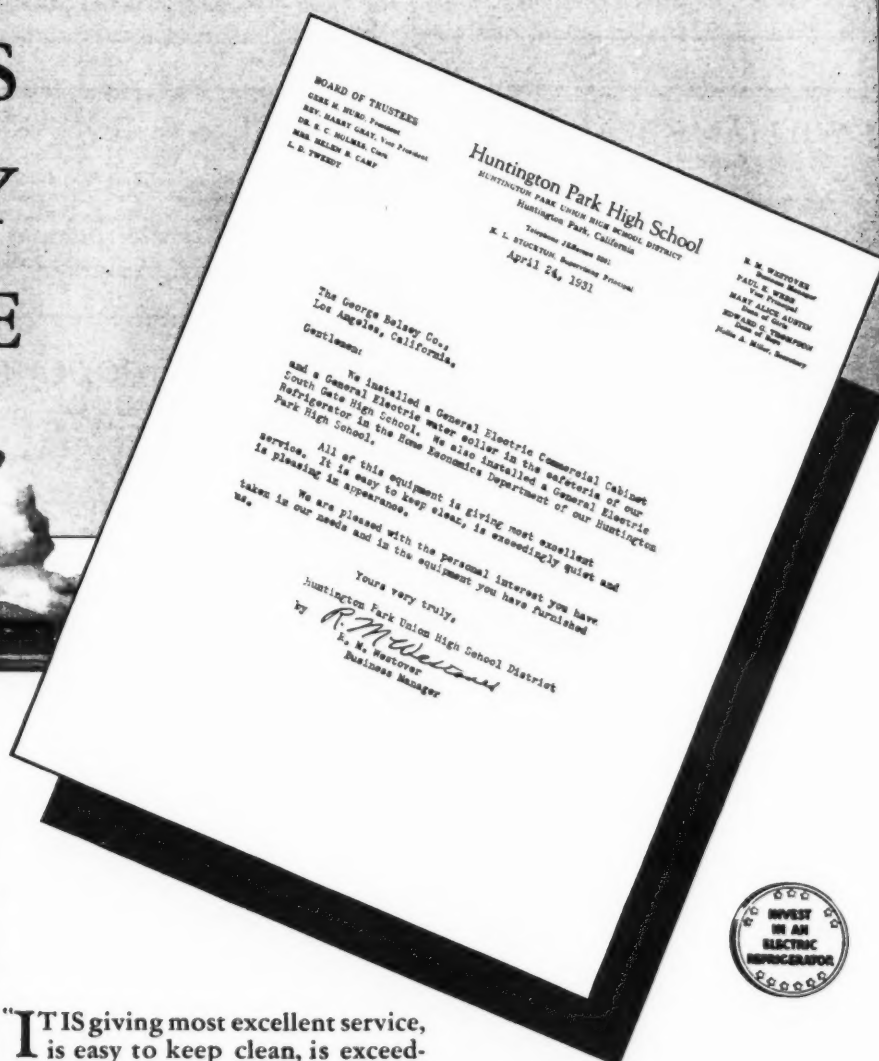
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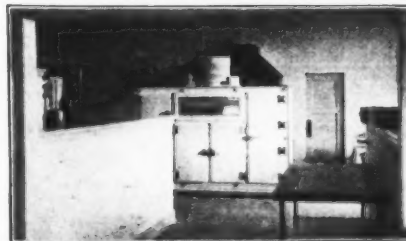
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One of the General Electric Refrigerators installed in South Gate High School, South Gate, California



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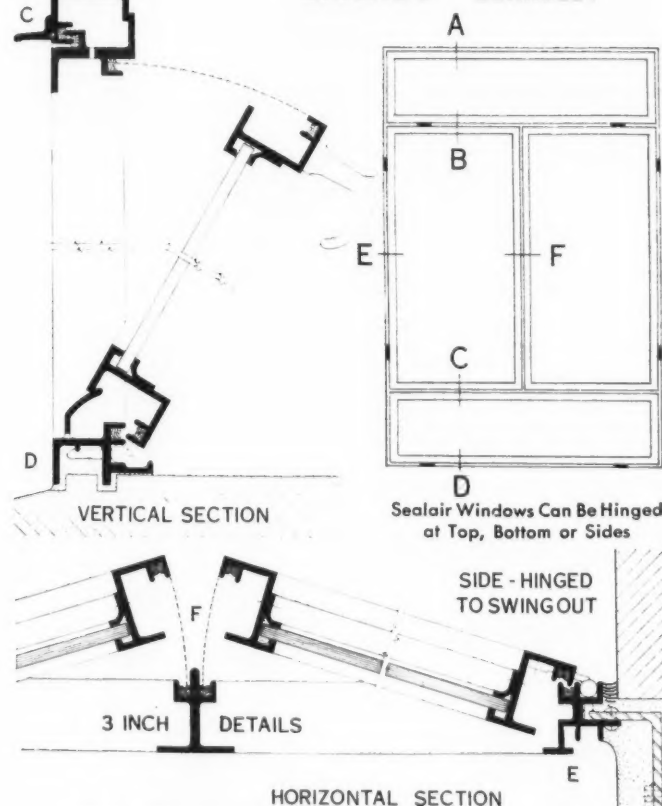
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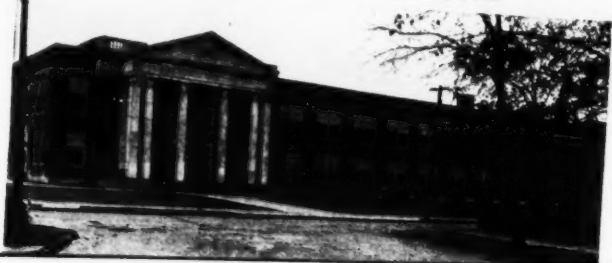
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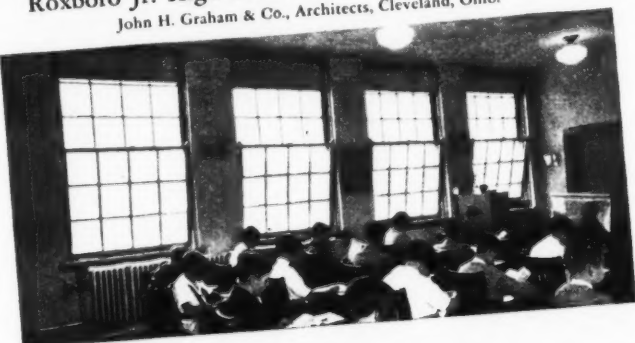
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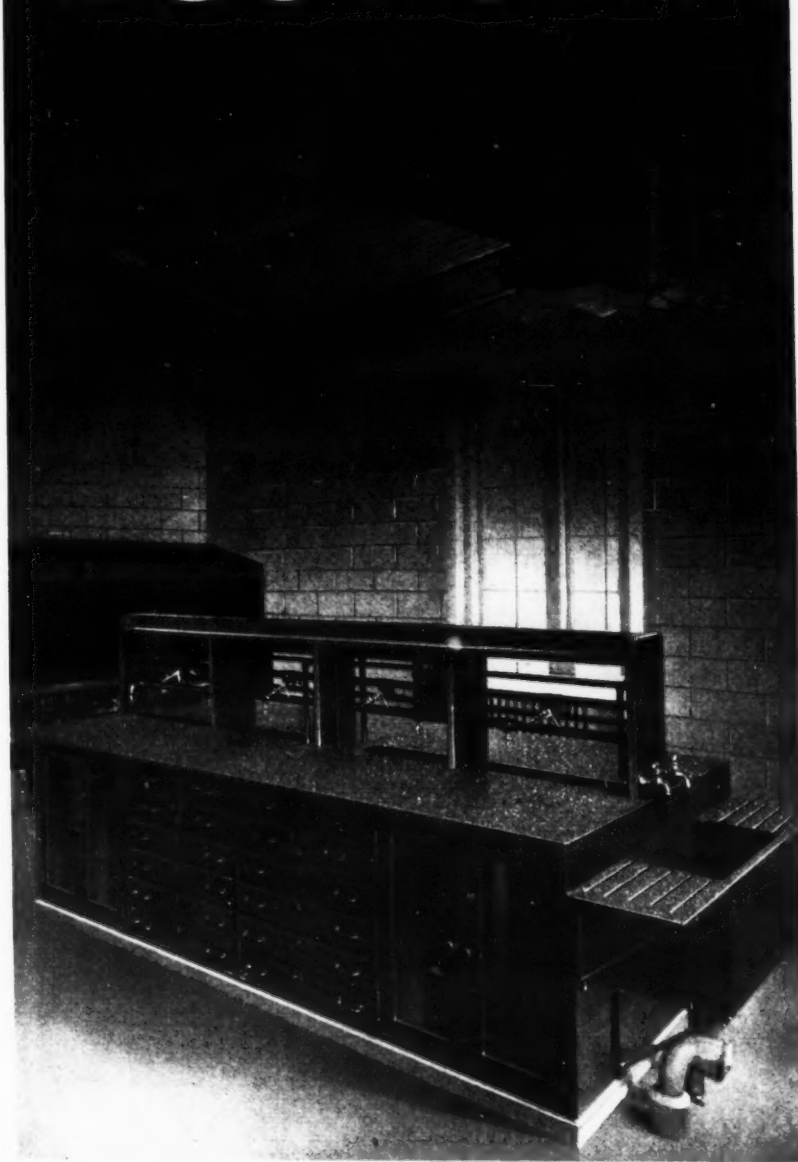
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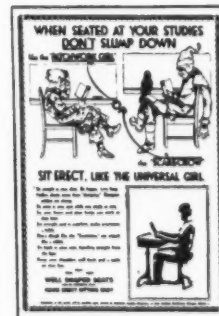
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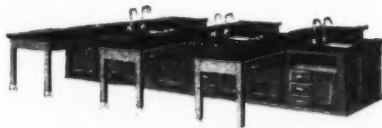
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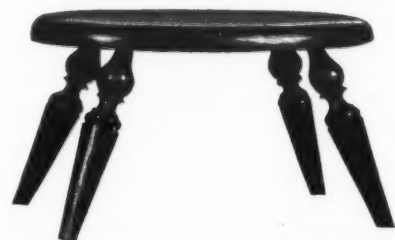


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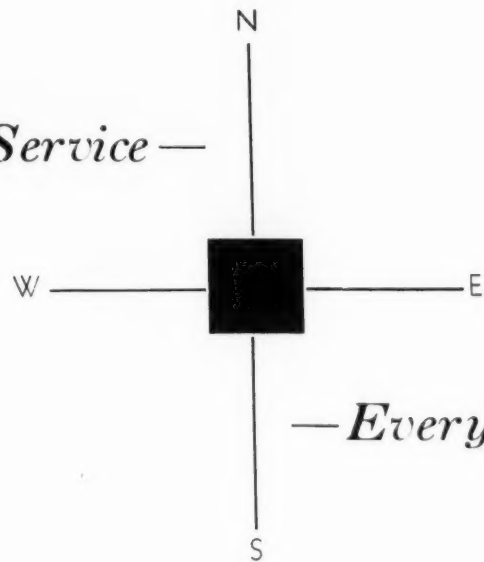
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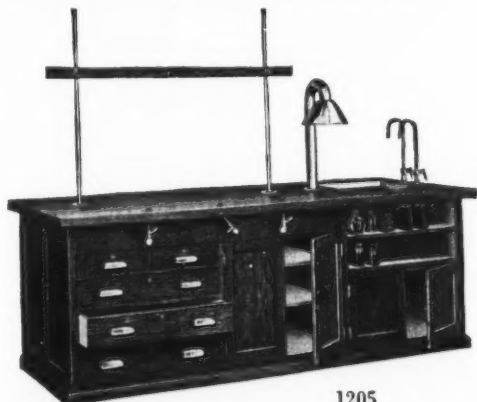
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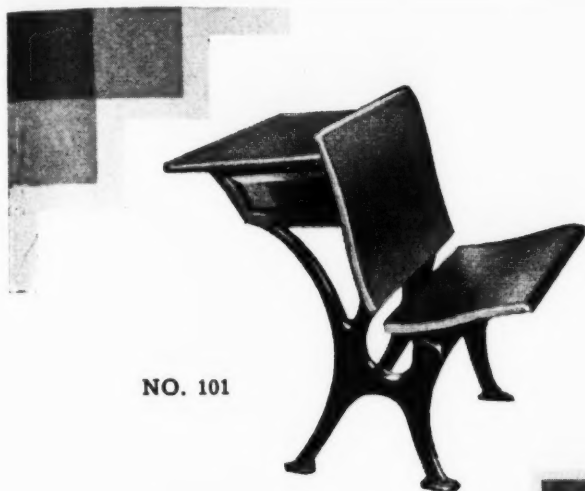


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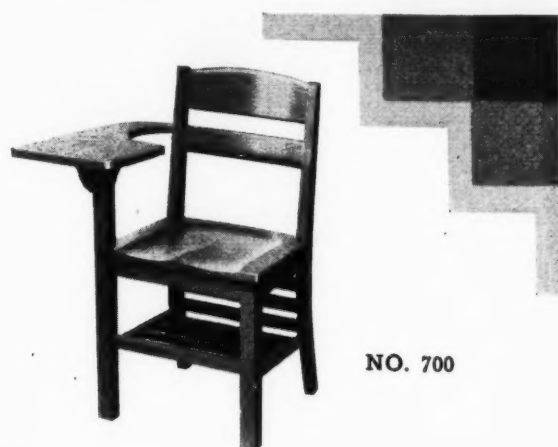
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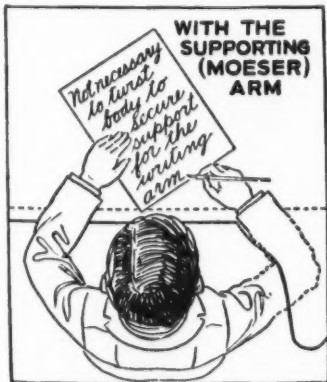


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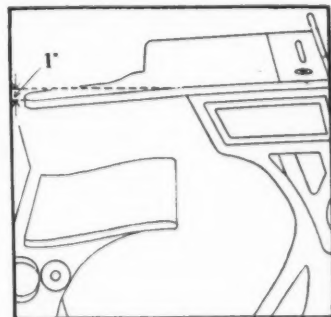
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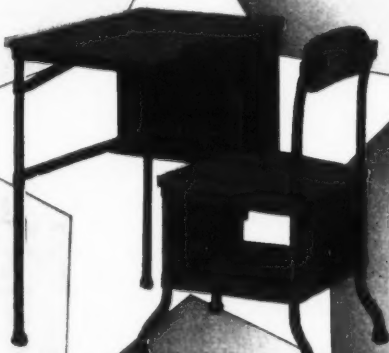
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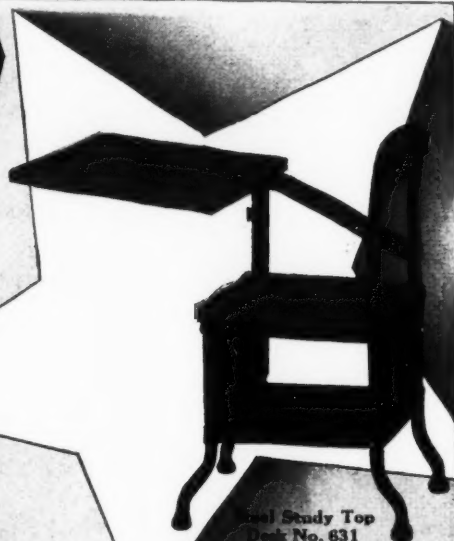


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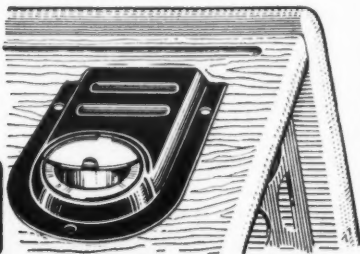
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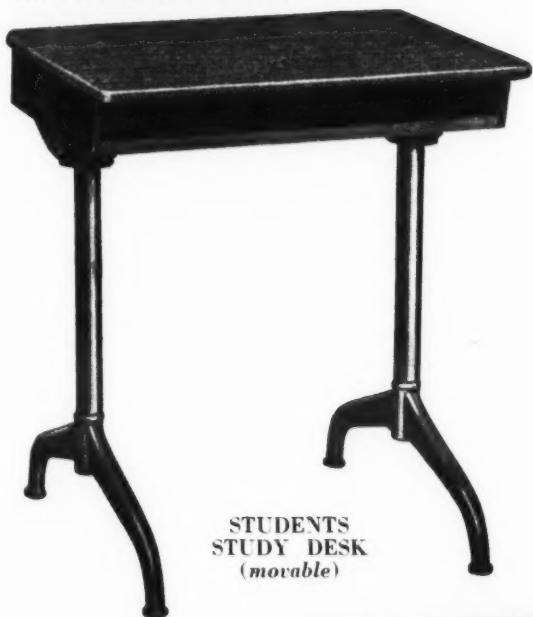
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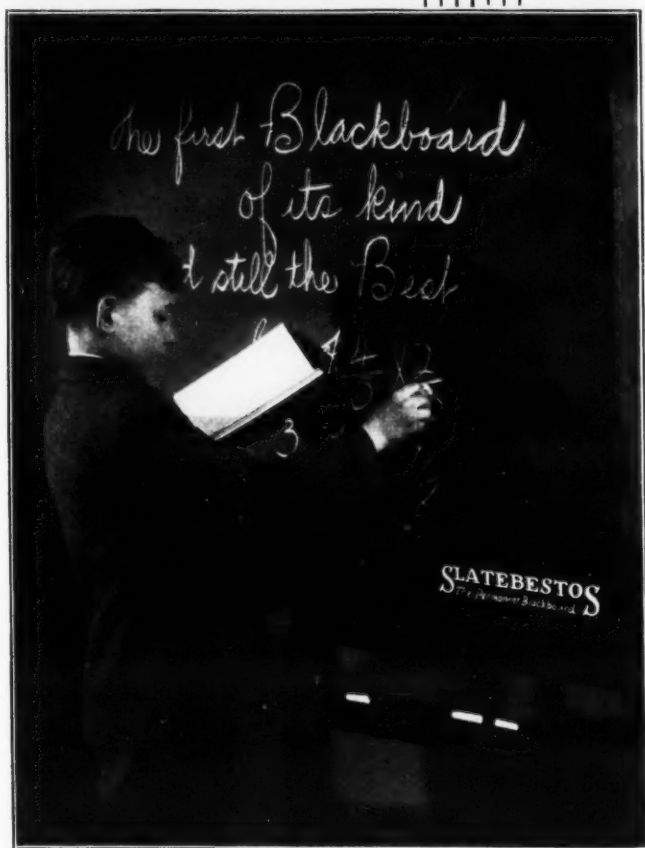
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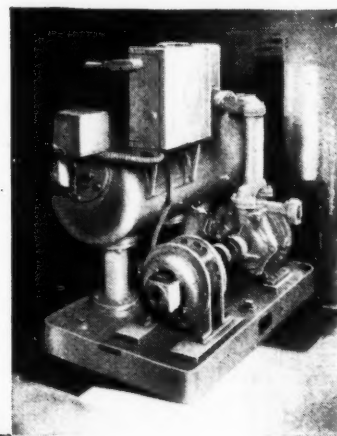
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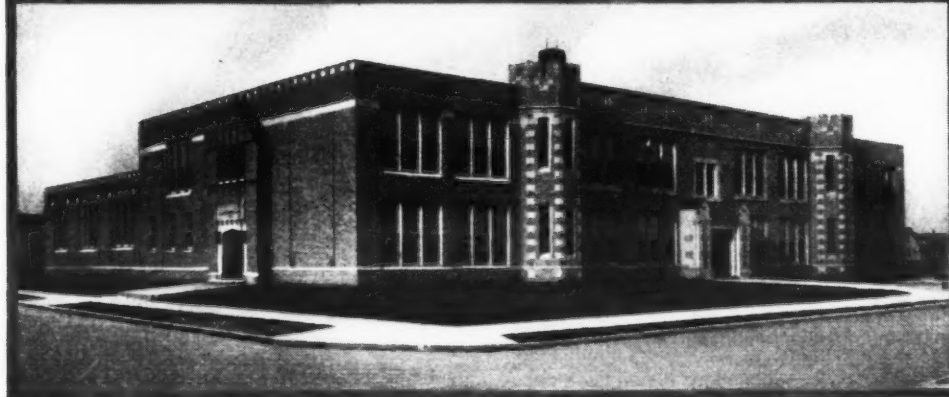
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The reputable publisher not only scans the credit and reliability of the prospective advertiser, but he also satisfies himself that the goods advertised will render the service claimed for them. The conscientious publisher also realizes that he cannot consistently allow anything of a questionable character to get into the advertising columns of his publication.

Thus, the advertising pages of a current publication, enjoying acceptance by the public, are entitled to the confidence of the prospective buyer. The publishers of the AMERICAN SCHOOL BOARD JOURNAL have been frequently obliged to reject tempting offers of advertising contracts, because they could not be assured that the articles were as advertised or that the seller came along with clean hands. The buying public is entitled to protection. The reputable publisher will not become a party to questionable business methods.

THE PUBLISHER

TITLE PAGE AND INDEX READY

The Title Page and Index have been prepared for Volume 82, including the first half of the year 1931. Copies will be sent to any subscriber upon request.

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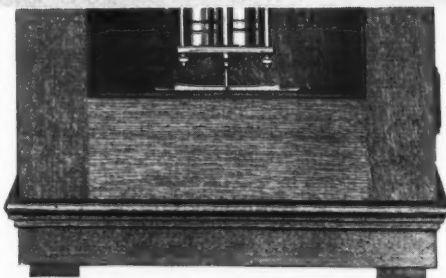
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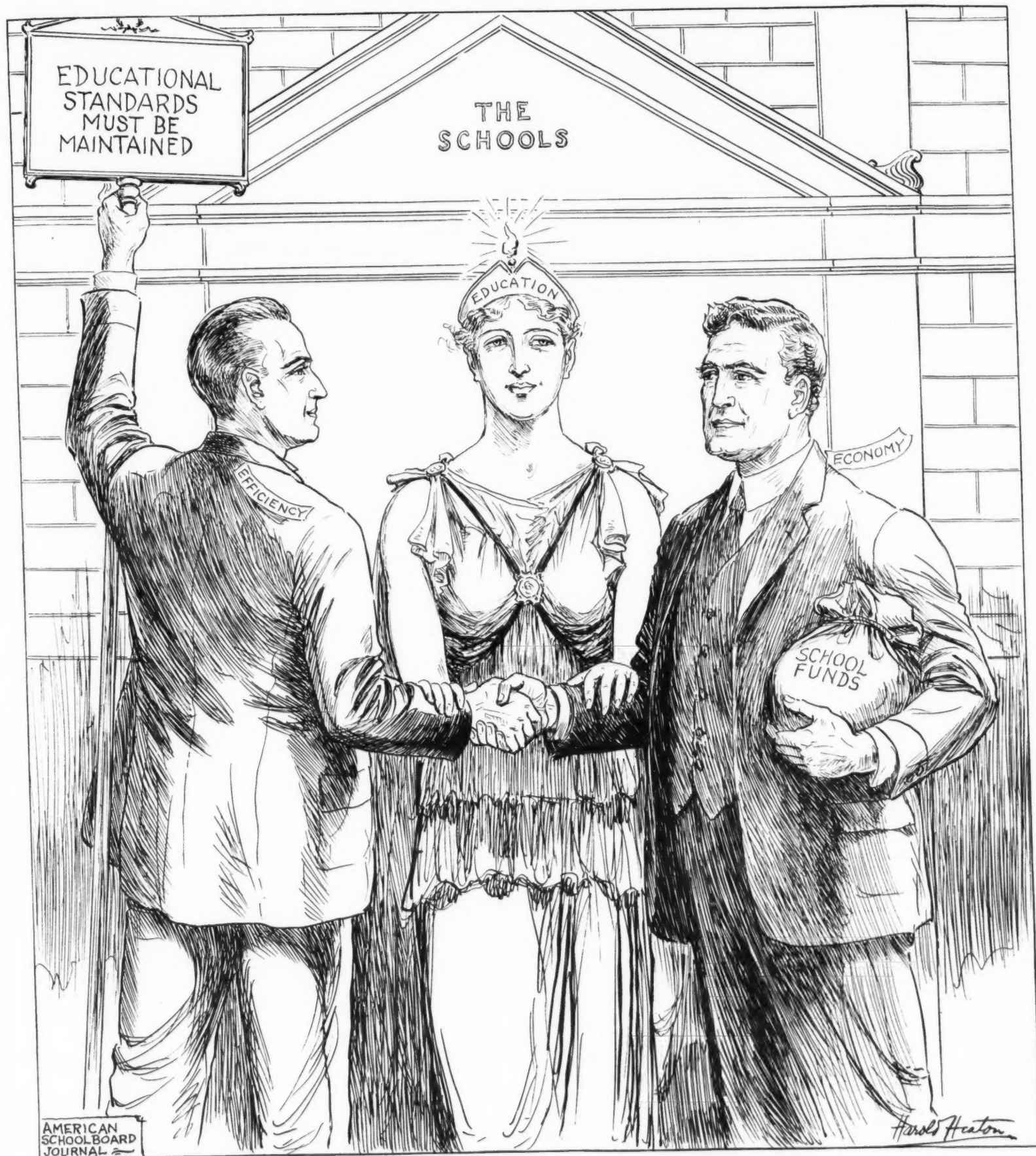
"STANDARD MAKES EVERY MINUTE COUNT"

THE AMERICAN School Board Journal

Volume 83, No. 2

AUGUST, 1931

Subscription, \$3.00 the Year



GENTLEMEN, YOU MUST WORK TOGETHER!

County Boards of Education: Their Organization and Duties

Walter D. Cocking, Professor of School Administration, George Peabody College for Teachers, Nashville, Tennessee

Considerable criticism of late has been heard in certain quarters of the work of boards of education. Some extremists have urged their abolishment. Many have seemed to acquiesce with Mark Twain when in humorous vein he wrote "First, God practiced on idiots, then he created school boards." Instead of destructive criticism, what is needed is a careful study of the work of boards of education to attempt to provide sound and businesslike patterns of action for the discharge of their tasks.

Never was the work and responsibilities of boards of education greater and more important than at present. To them, the people have delegated the oversight and direction of the schools. As Reeder¹ points out, what the citizens of the next generation will be, the schools of today will largely determine; and what the schools are, boards of education largely determine.

In our democratic conception of education, school boards exist as the direct representatives of the people to direct and oversee the operation of the schools. Their job today is far different from when the first school board was instituted, for the school of today is an entirely different institution than that of one hundred and fifty years ago. The change that has come is directly comparable to that which has come in business and industrial lines. From a small insignificant institution consisting of a small number of pupils, few teachers, a limited curriculum, and costing little money, schools have grown and developed in the short span of one hundred years until today the school in any given community is more likely than not the largest and most expensive enterprise in the community. Not only is the school large, but of necessity it has become intricate and complicated in its operation and procedure.

The Work of the Modern School Board

The school board, therefore, which would conduct the affairs of a modern school, has an entirely different type of task than it had when first instituted. May not the question well be asked, Has the procedure and work of the school board kept pace with other developments of the school, or is the ordinary board of education attempting to perform its task in the fashion of yesterday?

It is the purpose of this article to describe the organization and functions of county boards of education in Tennessee. Also, a comparison will be presented between the Tennessee board and the one which authorities would propose as most nearly ideal. While Tennessee boards differ somewhat from those in other states, it is probable that the findings for this state are similar to those found generally.

The state of Tennessee is committed in general to the county as the unit of school administration. The work then of the various county boards of education throughout the state very largely determine the types of school facility provided. It is pertinent to inquire, therefore, what is the composition of these county boards of education, what are their duties, and how closely the organization and work of Tennessee county boards conform to the best thought and practice.

Through legislative enactment² the organization of county boards of education has been provided as follows:

Be It Further Enacted:

Sec. 15. That in each county of the state there shall

be a county board of education, composed of seven members, elected by the county court at its July term, one each year, to succeed members now in office as their respective terms expire, each member to serve for a term of seven years: Provided, this section shall not apply to counties where the boards of education are elected by the people as now fixed by law and provided, however, that in counties of this state having a population of two hundred and twenty thousand (220,000) or more according to the federal census of 1920 or any subsequent federal census and in counties with a population of not less than one hundred and twelve thousand (112,000) or more than one hundred and fourteen thousand (114,000) by the 1920 federal census or any subsequent census, provisions of this section shall not abolish existing boards of education nor change the number of members of such boards, nor the tenure of office or length of terms or compensation of members of such boards and their successors as provided for in legislative acts establishing boards of education in such counties; but boards of education in such counties shall have all the powers and authorities authorized and provided for in this act. The provisions of this act shall not be construed as requiring any new boards of education to be elected in any of the counties now having a board of education, provided that in such counties as have a board of education of only five members, two additional members shall be elected at the July term, 1925, of the quarterly county court.

Sec. 16. Members of the county boards of education shall be residents and voters of the county in which they are elected and shall be citizens of recognized integrity, intelligence, and ability to administer the duties of the office. No member of the quarterly county court nor any other county official shall be eligible for election as a member of the county board of education; provided, however, that the provisions of this act shall not be construed to legislate out of office any member of the board of education. No person shall be eligible to serve on the board unless such person be a bona fide resident of the county and have a practical education. If any member ceases to reside in the county the office of such member shall become vacant.

Sec. 17. The compensation of members of said county board of education shall be fixed by the quarterly county court for their services when attending regular and special meetings of the board and discharging the duties imposed by this act; provided, that the county trustee shall pay no voucher issued to members of the county board of education unless the same shall have been approved by the county judge or the chairman of the county court; provided, further, that no member of any board shall receive more than four dollars (\$4) per day for his services.

Sec. 18. When a vacancy occurs in the membership of the said board the unexpired term shall be filled at the next regular meeting of the quarterly county court. Vacancies shall be declared to exist on account of death, resignation, or removal from the county.

Duties and Powers of the County Board

Briefly, the duties and powers of the board as provided by law are as follows:

1. To hold four regular meetings each year and as many called meetings as are thought necessary.
2. To select one of its members chairman.
3. To assign duties to the county superintendent.
4. To elect and fix the salaries of school employees.
5. To manage and control the county schools.
6. To purchase supplies and equipment.
7. To order warrants on the trustee.
8. To fix the length of the school term.
9. To visit schools.
10. To dismiss employees.
11. To suspend pupils.
12. To have the census taken.
13. To provide an officer and equipment.
14. To require a budget.
15. To consolidate schools.
16. To provide transportation of pupils.
17. To require physical examination of employees and pupils.
18. To establish night schools and part-time schools.

An examination of the law just quoted indicates that the ordinary Tennessee county board of education, or at least the board provided for by the general school law of the state is briefly as follows:

It is composed of seven members, who are elected by the county court at its July term, one each year for a period of seven years. The members are qualified voters of the county, hold no other county offices, are citizens of recognized integrity, intelligence, and ability to administer the duties of the office. Their compensation is to be fixed by the county court, but not to exceed \$4 a day. From the duties specified, it is evident that the intent of the law is for the boards to actually administer the schools.

The Ideal County Board

Mr. J. C. Taylor, principal of the county high school at Savannah, Tenn., made an intensive study of the composition and work of the county boards of education in the 95 counties of the state to determine the extent to which boards and their work complied with the legislative enactment, and further to attempt to discover to what extent Tennessee boards parallel the work of an ideal board of education. This study was made at George Peabody College for Teachers under the direction of the writer. Mr. Taylor set about to determine what an ideal board of education is and its work through an exhaustive study of the judgments of those who have made careful studies in this field. As a result, he summed up an ideal county board of education in the following words:³

"It is composed of five members, who are selected from the county at large. They are elected by popular vote, at a special election held at the schools, preferably in the spring. They serve for a term of five years, with one new member coming on the board each year and their terms in this manner overlapping. They are men and women of successful business experience, have a wholesome interest in the public schools, and are willing to delegate the actual running of the schools to professionally trained persons.

"The members serve essentially without pay, except for necessary expenses incurred while attending board meetings. Business is transacted by the board as a body, there being no standing committees and few if any temporary ones. The duties of the board are legislative and not executive, the most important of which are as follows:

1. To employ a professionally trained school executive — the superintendent.
 2. To adopt policies upon his recommendation.
 3. To see that such policies are carried out."
- Taylor, then, compiled the facts regarding the present status of county boards in the 95 counties in Tennessee. Probably the best picture of present conditions in this state can be given by quoting from Taylor's study:⁴

A Comparison of Tennessee County Boards of Education with the Ideal Board

Types of Boards

Tennessee Boards: There are many different types of county boards of education in Tennessee.

Ideal Board: There is one best type of board.

Size of Boards

Tennessee Boards: The boards vary in size from 3 to 15 members.

³James Custer Taylor, "A Study of the Tennessee County Boards of Education," unpublished thesis, George Peabody College for Teachers, p. 51.

⁴Ibid., p. 52.

(Concluded on Page 107)

¹Ward G. Reeder, *The Fundamentals of School Administration*, p. 10.

²Tennessee Public School Laws, Chapter V, 1925, Sections 15-18.

Attacks on School Administration

Supt. W. C. McGinnis, Perth Amboy, New Jersey

The cry of the taxpayer is heard in the land, and, as one severe critic of the schools writes, "it promises to develop into a roar that will be heard across the continent."

The following quotations are exact copies of statements that have appeared in print, or have been made orally in the presence of the writer.

1. "Taxpayers all over the United States are smarting under the sting of oppressive state and local taxation. Many farmers and many business men are obliged to borrow money to pay their taxes; many home owners, unable to pay or borrow further, are likely to lose their homes."

2. "Chief among the most reckless of the tax spenders are the various boards of education and school trustees. These bodies, acting in most cases under the direction of the school politician, are squandering public funds with an abandon never before known."

3. "It is perfectly clear that if the demands of the schools continue to increase at the present rate, or as seems more probable, at an increased rate, the financial inability of society to pay the cost will in a measurable time bring about radical curtailments. Under the enormous load of taxation that society carries today, communities will rise against the burdensome cost of public-school education."

4. "With the elimination of the frills, school operating costs ought to be reduced by one half."

5. "More than half of all the money collected from taxation goes to the schools."

6. "The burden of taxation is killing business."

7. "Taxation has reached a point where further increase will be confiscation of property."

8. "The expenditure of every dollar of school funds ought to be subject to the approval of the mayor."

9. "There is a tremendous amount of waste of money in the school system."

Cost Criticisms Basic

The number and variety of listed criticisms of the administration of the school systems might be increased indefinitely even if we should use only those criticisms that are being made by supposedly responsible business men and public officials.

Criticism of the schools is not confined to the subject of school costs. The range of criticism is wide and all-inclusive, but the more serious criticisms have their bases in school costs. An editorial finding fault with the local high school because of "fads and frills" may not mention school costs, but that is the real subject to the editorial. The Chamber of Commerce condemns the teaching of household arts and the civic committee of the Taxpayers' League goes on record as being opposed to the inclusion of a cafeteria in the new junior high school on the ground that the school is invading the rights of the home, but expense is the real basis of the opposition. Thus the many direct attacks on the schools on the basis of extravagance and waste are supplemented by many indirect attacks from the same basis.

Frequently superintendents and school boards are faced with the problem of whether to ignore attacks on the schools, or to meet them, and, if they are to be met, how to meet them. Criticism of school expenditures in general, such as the 1922 Report of the Carnegie Foundation, is likely to be regarded by superintendents as an academic question in which they take only a casual interest, but direct and specific criticism of the local school system usu-

ally rouses the ire of the careful, prudent superintendent. If the Chamber of Commerce or a candidate for public office charges that there is waste in the administration of the local school system the superintendent resents it, and if he takes official notice of the charge he attempts to disprove it.

Some Guiding Principles

There are some guiding principles which school officials can observe for their own advantage and for the welfare of the schools.

1. Avoid newspaper controversies.

2. Do not *reply* directly to attacks on the schools unless forced to do so by very unusual circumstances. Nine times out of ten it will not be necessary to make direct replies.

3. Whether attacks on the schools should be answered at all depends upon whether, if not answered, they are likely to injure the schools. Here good judgment and common sense must find the answer.

4. Every progressive school system has a systematic publicity program. Most attacks on the schools (probably all of them) can best be met and answered through and by the constructive releases of the publicity department.

5. The presentation of school conditions should be dignified. No personalities should be indulged in. Statements should be based on bona fide data. Conclusions should be consistent with the data; should be logical; and should not be statements of opinion. In other words, the conclusions should be as scientific as possible.

School officials are likely to regard all criticism as insincere, malicious, and selfish. This is an unwise and dangerous attitude to take—dangerous not only to the school board and the superintendent, but also to the schools. It is better to assume that even the Taxpayers' League is honest and is devoted to the public welfare. Even adverse criticism of the schools is, in the long run, likely to be of benefit to the schools. The Carnegie Foundation Report which was the most severe indictment ever made against American schools has brought more of benefit than harm to education in America.

A Typical Example

Here is a typical statement: "Another scheme has been adopted by the school board to provide another 'educator' with a soft job at the expense of the taxpayers. They have established a Department of Research!" The best way to meet the charge that there is waste in the school system is to admit it. Waste is universal. Every business man knows there is waste in his own business organization, and, if he is a manufacturer on a large scale, he knows that there is some waste in every department of his organization, and that the amount or degree of waste depends upon the amount of scientific study his organization has used to eliminate waste.

Industry has not hesitated to add to the cost of overhead by providing for departments of research, and the research department in industry has justified itself on the basis of the decrease of waste and the increase in the quality and quantity of product. Industrial expansion is largely based on research. The business man, met on his own ground, has enough transfer of ability in the application of common sense to see the relationship between research in industry and research in education.

Undoubtedly some of the criticism of the schools is prompted by selfishness or supposed self-interest. Much of it is based on misinfor-

mation, lack of information, or a wrong interpretation of facts. Some of it is based on tradition and an unacknowledged adherence to the old theory that, "there is no more reason why I should help pay for the education of my neighbor's child than that I should help pay for his bread."

Let us examine specifically some of the direct criticisms of the schools that were listed at the beginning of this article.

The chief charges are: (1) Taxes are oppressive and business men are obliged to borrow to pay them, and home owners are likely to lose their homes. (2) Boards of education squander public funds. (3) There is financial inability on the part of society to pay the cost of schools. (4) Elimination of frills would reduce costs one half.

The following data are not conclusive, but they are accurate and are the only type of answer which will convince the thoughtless critic. The facts are taken from *Research Bulletin*, N.E.A., Vol. III, No. 3, and are based on U. S. Government reports: The cost of public education in the United States for 1922 was .56 per cent of the tangible wealth. This is \$5.60 per \$1,000; \$.56 per \$100; or a 5.6 mill tax. This is not oppressive or confiscatory taxation.

A total of 2.77 per cent of the national income was expended for public education in 1922.

The cost of public education in 1922 was 15.61 per cent of the amount of the national income saved.

In 1914 one person in four had a bank account. In 1922 one person in three.

Cost of education is not keeping business from expanding. Corporation surplus is the amount remaining after payment of all expenses, including *reserves, taxes, and dividends*. The corporation surplus in the United States annually is about 4 per cent of the amount of the national income.

Economic Value of Education

The standard of living of a nation determines to a considerable extent the amount of agricultural and manufactured products the people will consume. Business profits are largely determined by the quantity of products consumed. Education is a factor in raising the standard of living. Indirectly and directly industry is indebted to education for profits, and thus for prosperity. Education provides the scientist for the research departments of industry, business, and agriculture. Education is not, as it is legally assumed to be, a nonproductive enterprise.

The charge of "fads and frills" is so old and familiar that it does not require specific treatment here. No two critics can agree as to what constitutes the "fads and frills." The statement that elimination of the fads and frills would reduce the cost of schools one half, is a gross exaggeration even if the critic is permitted to make his own list of them. Teachers' salaries represent approximately 75 per cent of the amount of current expenditures. If a city is expending a million dollars for current expenditures, the reduction of the teaching corps by one third would represent a saving of only \$250,000. The critic's longest list of "fads and frills" never includes the teaching load of a third of the teachers. The critic himself disproves his charge that the elimination of "fads and frills" will reduce costs one half.

The tendency of critics to exaggerate is one thing that helps the school official in presenting to the public interesting and valuable information in regard to the schools.

Organization of Sight-Saving Classes

Gladys L. Dunlop, Supervisor of Sight-Saving Classes, Detroit, Michigan

A large portion of the school population suffers from eye defects. Recent reports of the National Society for the Prevention of Blindness indicate that at least one child in one thousand should receive the benefits of sight-saving-class training.

This special type of education grew out of the demand for a school program adapted to the needs of the children with seriously progressive eye defects and those who did not have sufficient vision to use regular school equipment though they were in no sense of the word blind.

The first class in the country was established in Boston in April, 1913. Owing to the many problems involved, the growth has been very gradual. It is gratifying to note, however, that during the past year there has been an increase of 7 per cent in the number of classes. Further efforts should be made to establish approximately 5,000 classes which are necessary if a satisfactory educational program is to be provided for the children with serious eye difficulty.

Perhaps the most difficult factor in the organization of a class is the selection of those who would profit by this special type of training. In establishing the work for the first time, careful studies should be made in cooperation with the local health agency procuring correction and treatment for those suffering from serious eye defects.

Candidates for the classes are usually discovered through routine health examinations by teachers or nurses. An endeavor has been made to set up guides which may serve all school systems in finding potential sight-saving candidates.

Principles of Choosing Children

In connection with the summer course at the University of Chicago in 1928, several ophthalmologists who were familiar with the sight-saving program met in a conference with teachers and supervisors to consider guides which may serve in placing those, who, after having expert ocular services, need, in addition, special attention in the classroom. The following guides were formulated and since that time have been generally used by the various states and cities in classifying children:

1. Children having visual acuity of 20/70 or less in the better eye after proper refraction. In addition, the following are recommended as potential candidates:

a) Children in elementary schools having four or more diopters of myopia.

b) Inactive, subsiding (or regressive) cases, such as interstitial or phlyctenular keratitis, optic neuritis, trachoma, etc., in which some irritation may be present, provided the approval of the attending physician is given.

2. All cases must be considered individually.

3. Any child who in the opinion of the ophthalmologist will benefit by assignment to a sight-saving class, subject to suggestion for treatment and training by such oculist, and the acceptance of the educational authorities having charge of such classes.

4. It is assumed that all the children assigned to sight-saving classes have average normal mentality.

Physical Conditions

Having determined the number of children for the class, careful attention should be given to the selection of a room. Since one room must serve several buildings, it should be centrally placed in the district and must also be convenient to transportation lines. If possible a

newer type of building having correct lighting and modern equipment should be decided upon, thus minimizing the cost of opening a class.

A full-sized classroom is desirable in order to take care of the extra equipment which these classes demand, and to provide sufficient space for these low-visioned children to move about.

The best authorities on lighting state that in every classroom there should be "a maximum light with a minimum glare." A sight-saving classroom is selected and equipped with these essentials in mind.

A northern exposure was for a long time considered best, for here the light is least variable and for this reason can be easily controlled. Most recent investigations have proved that an eastern exposure is most desirable, since it gives the children some sunlight. Poor eyes are often a reflection of unhealthy bodies, and every attempt is made to improve the physical condition as well as to provide proper working conditions.

The Lighting Problem

The glass area of the windows should be equal to one fourth of the floor area. Windows should be at least 3 ft. from the floor and no nearer the front of the room than 7 ft. They should also reach almost to the ceiling, since we must depend on light from the top to light the far corners of the room. Unilateral lighting is preferred. Wall tints are considered important. From a lighting point of view they should be finished in light buff, with ceilings in cream.

Careful consideration is given to artificial lighting. Indirect lighting was for a time believed to be the only satisfactory installation for sight-saving classrooms, but too often not enough attention is given to maintenance, which detracts considerably from the efficiency of the light. Observation and experience have determined therefore that the direct light, with totally inclosing translucent shades is most desirable.

The correct type of window shades provided a sight-saving classroom is of vital importance. According to the "Code of Lighting School Buildings," issued by the National Illuminating Engineering Society, shades must perform several functions: (1) diffuse direct sunlight; (2) control the illumination to secure reasonable uniformity, (3) eliminate glare from visible sky, adjoining buildings, or from the blackboard.

These conditions are best met by equipping the windows with two buff translucent shades, each operating from the center. Care should be exercised, however, in installing them so that no light enters between the two rollers. Shades on fixtures which may be adjusted at any part of the window are sometimes supplied. However, these are not advisable since with very frequent adjustment they are soon beyond repair.

The Equipment Essentials

All furniture and woodwork in sight-saving classrooms must have a flat finish, since highly polished surfaces are a source of glare.

Movable desks with adjustable tops are necessary. The slanting top provides a proper focus and the pupil may at any time move the desk to a place where he may obtain the best light considering his own particular difficulty.

Special supplies for the class include soft cream manila paper (9 by 12 in.) such as is used in most art classes. The same type of paper should be purchased lined in green or black about three fourths of an inch apart. All written work is done with a soft pencil. Any good grade of soft drawing pencil is acceptable provided it produces a clear, even, black line that does not smear easily.

Bulletin typewriters are also an essential part of the equipment of the classroom. Teachers use the machines to prepare certain material in large type. Furthermore, they are more satisfactory for the children's use. Typewriting is taught all pupils above the fourth grade, not as a vocation but as a means of saving eyes.



CHILDREN IN A DETROIT SIGHT-SAVING CLASS USING THE SAND BOX FOR DEVELOPING A PROJECT



A DETROIT SIGHT-SAVING CLASS USING SPECIAL BOOKS FOR A READING CLASS

Careful instruction enables the individual to master the keyboard within a few weeks. Following this, composition, spelling, or any form of written work may be prepared without involving the use of the eyes.

Books in 24-point type on cream paper are furnished all the classes.

Class Organization

Sight-saving classes should be organized on what is known as the coöperative plan of education, the children doing all the study and written work in the special room with the sight-saving-class teacher, but reciting with those of normal vision. This provides social contact as well as academic competition.

The only deviation from the program as set up for regular classes is an elimination of such subjects as require considerable close eye work—art, library, and sewing. In the place of these, the special teacher provides different types of handcraft which do not involve close use of the eyes. Here the child has an opportunity to express himself and to learn certain activities which he may pursue outside the classroom and thus avoid engaging in those from which eye injury might result.

The greatest factor in the success or failure in any sight-saving-class program is the teacher. No individual should be assigned without having had special training for the work. Intensive summer courses have been introduced at the University of Chicago, University of Cincinnati, University of Southern California, Buffalo Teachers College, Columbia, and Tulane Universities. Such courses give consideration to ocular problems, including anatomy, physiology, and hygiene of the eye; eye diseases and the errors of refraction. With this information and a background of satisfactory teaching experience, the teacher can well adapt modern methods and materials to the needs of the sight-saving-class child. Without this special training, a teacher is incapable of providing for individual differences with respect to eye conditions.

While education costs for the child with low vision are in excess of that for normally sighted children, this should not be a deterring factor when considering the organization of the classes. Special education costs less than academic failures and juvenile delinquency. Such

are the inevitable fates of boys and girls with imperfect vision, unless special provision is made, for them for the whole of life becomes distorted to the degree which the pupil suffers in attempting to meet life's situations, its burdens and difficulties.

Teacher Status in Iowa

Iowa is a typical state. Its educational status is similar to that of many other states. The teaching personnel in point of training, tenure, remuneration, and service does not vary in any marked degree from the great average that applies to the country at large.

Iowa now comes forward with a study on the teacher of the state which is said to be more comprehensive than that undertaken by any other states. It brings out facts, some of which will prove of interest outside of Iowa as well as those residing in the state. The fact that over 60 per cent of the current expenditures of the State of Iowa for operating its public elementary and secondary schools goes for the salaries of teachers, principals, supervisors, and superintendents, emphasizes the importance of the study.

The total number of teaching positions in the elementary and secondary schools for the school year of 1929 was 25,842. As to their training the report says:

"About one third (32 per cent) of the rural teachers are graduates of a normal-training high school, one fourth have had from 6 to 12 weeks at a teachers' college, while 21.4 per cent have had from 1/2 to 1 year in a teachers' college, college, or university. One out of every 8 has had more than 1 year of training above high school, while two thirds of the entire group have not more than 12 weeks of training beyond high school. As might be anticipated, the city elementary teachers possess more training. Nearly a third have had from 1 1/2 to 2 years in a teachers' college, half of the group have had from 1 1/2 to 2 years in some college

or university, and almost 3 out of every 10 have had more than 2 years of training above graduation from high school. Ninety-five per cent have had more than 12 weeks of training beyond high school.

"More than half of the junior-high-school teachers have college degrees while three fourths of the senior-high-school teachers fall into this training group. Twenty-three per cent of the junior-high-school teachers have 2 years of training above high school or less, while only 7 per cent of the senior-high-school teachers fall within these limits. Four fifths of the 83 junior-college teachers and two thirds of the librarians possess master's degrees."

In presenting the median years of experience the study gives the following:

Rural teachers	2 years
City elementary teachers.....	6 years
Junior-high-school teachers.....	10 years
Senior-high-school teachers.....	3 years
Public junior-college teachers...	4 years

On the subject of tenure the report says: "Taken as an entire group, more than 40 per cent of the teaching personnel of Iowa were new to their positions in 1928-29. Fifteen per cent had but 1 year of tenure, and 85 per cent remained 5 years or less. But 1 out of every 16 stayed for more than 10 years. Of the 4 groups of classroom teachers, 42 per cent were new to their positions, 16 per cent had been in them 1 year, and but 30 per cent had a tenure of more than 2 years. Less than 15 per cent had been in their positions more than 5 years.

Clearfield's School Adventures

Mark Wright, Member Clearfield School Board

A SALARY SCHEDULE FOR TEACHERS

There has been 100-per-cent attendance of members at the last three monthly meetings of Clearfield's school board. Sam Jones, chairman of the board, expressed probably the real explanation of such perfect attendance when he said: "The combination of a new superintendent, plus the lure of his monthly reports to the board, has done the trick."

The superintendent's report this month recommended the adoption of a new salary schedule for teachers. The previous schedule which had guided us had been a vague affair except for one point. Each teacher and principal, regardless of training, experience, or worth to the school system, received an annual increase of fifty dollars. Mrs. James, once a teacher herself, had remarked more than once since becoming a member of our board that our present scheme for teachers' salary increases needed thoroughgoing revision. But we had done nothing about it, because no one member seemed to know exactly how to improve the situation. However, Superintendent Graham's report has cleared the atmosphere. As we went home, after adopting the new salary schedule, we carried with us the feeling that we ourselves had discovered something.

But before Superintendent Graham submitted the proposed new salary schedule for our approval, he discussed informally with us several pertinent points. These essential features in a good salary schedule for teachers, whether in Maine or California, as listed by him included the following:

Eight Salary Essentials

1. A beginning salary sufficient to insure for Clearfield well-trained and well-educated teachers. This salary should represent a living wage for an individual with the habits, tastes, and training of a teacher.

2. Provision for taking experienced teachers as well as beginning teachers into the system. These experienced teachers should be started at a point in the salary schedule commensurate with their training and experience.

3. Provision that either promotion or receipt of the maximum salary shall require (a) evidence of professional growth (summer school, extension courses, travel, etc.); (b) evidence of high classroom efficiency (as shown by objective tests of different types and whenever possible by more than one individual).

4. Small automatic annual salary increases with periodic "halts" unless justified by further professional growth.

5. Increases in salary arranged to encourage hard work and individual improvement, and to recognize unusual merit.

6. The attachment of special salaries to positions, such as demonstrating teaching, which demand special training or special ability.

7. The maximum salaries for those teachers who make teaching a professional career should be at least twice as large as the beginning salaries. These maximum salaries should demand about fifteen years of service and continued evidence of definite professional growth.

8. Salary increases based on efficiency.

This last point is very important according to our superintendent, yet very difficult to carry out. It has been tried in various places with varying degrees of success. Usually it has not met with particularly satisfying results. The great trouble lies in the fact that in the last analysis the whole problem reduces to a question of the reliability of the personal judgment of the superintendent or other supervisory offi-

cer. The teacher rated low claims invariably unfair consideration. Usually there is raised the question of the degree to which the supervisory officer or officers really understand all the factors involved. In case of a public hearing on the matter, public sympathy tends to drift toward "the poor teacher" instead of toward the children under the poor teacher.

Insuring Growth

The plan of basing promotion and salaries on efficiency in the classroom is right in principle but difficult to apply. However, some plan is necessary. Continued professional growth doesn't happen without some real stimulus. Without some such stimulus experienced teachers tend to fall into ruts. Teaching positions, since the educational opportunity of the children is the major consideration, must never become merely snug harbors or havens of rest.

With these considerations in mind Superintendent Graham, with the aid and approval of the board, worked out the following salary schedule for Clearfield. It is admittedly a compromise. But it represents a definite attempt to improve past conditions. The salary schedule as adopted follows:

Training	Salary	Annual Increase	Maximum With- out Further Training	Maximum With 1 Summer's Work Every 3 Years
2-year Normal Graduate.....	\$1,000	\$75	\$1,225	\$1,825 plus \$60
3-year Normal Graduate.....	1,100	75	1,325	1,925 plus 60
4-year Normal Graduate.....	1,200	75	1,425	2,025 plus 60
Degree (received while in school system) \$100. (or college)				

If sufficient professional work be done to earn the degree, the maximum salary becomes for a 2-year normal graduate, \$1,825 plus \$120 (8 summers' or 2 years' work) plus \$100 for degree. Total, \$2,045. For a 4-year normal or college graduate, \$2,025 plus \$120 (8 summers' or 2 years' work) plus \$100 for degree. Total, \$2,245.

Extended travel (5 or 6 weeks) with advance approval of the superintendent may be substituted occasionally for the summer school requirement.

The policy of granting a one year's leave of absence for professional study is to be encouraged. A teacher in such a case shall not forfeit the normal annual increase or the \$100 for the degree earned while in service.

Men Teachers Wanted

Since it is desirable that an increasing percentage of teachers in our junior and senior high schools be men, the salary schedule for men shall be such as to compete successfully with salaries paid men college graduates as beginners in other vocations or professions:

Training	Salary	Annual Increase
4-year College or Normal Graduate	\$1,500	\$100

The conditions as to continued professional training, travel, and degrees earned in service shall be identical for men and women teachers.

The annual increment of \$75 for all women teachers recognizes the fact that salary increases for a given period of training and experience should be the same for all, regardless of the grade taught. (Hint: It is not the grade taught, whether grade 1 or grade 12, which changes the annual increase, but rather definite professional growth and high classroom efficiency.) The \$15 increase for one unit of study or travel is 6 per cent of the average investment of \$250 required to earn one unit. Salaries are paid in twelve equal installments. Checks are drawn on the fifteenth of each

school month, and the June, July, and August checks are drawn together on June 15.

When Increments Stop

1. All teachers shall stop receiving the annual increment at the end of any three-year period during which they have not completed one unit (6 weeks) of approved summer-school work, or the equivalent extension courses, or one unit (5 or 6 weeks) of approved travel, or equivalents satisfactory to the superintendent.

2. Original certificates of summer-school courses, extension courses, or a statement of approved travel shall be filed at the superintendent's office on or before the last day of the first school week in September. Failure to do so means that the teacher has automatically lost the right to the increments due if she had met the necessary requirements. Should the institution concerned make the obtaining of this certificate at the required time impossible, the teacher must submit a sworn statement covering her work and credits on the same date referred to in the foregoing, and file the original certificate before October 1.

3. The annual increment in any case may be withheld or increased, if in the judgment of the superintendent it seems advisable. Special salaries may be attached to positions which call for special training or special ability. For example, demonstration teachers or teachers of exceptional children.

4. The \$15 increase which is granted for one unit (6 weeks) of approved travel will be distributed equally over the twelve monthly payments. This \$15 is a permanent salary increase. The base salary for the next year is equal to the salary of the previous year plus the earned increments which have been properly certified and recorded in the superintendent's office. (See paragraph 2.)

5. Approval of all travel should be sought from the superintendent in advance. A detailed itinerary should be submitted in writing. *No travel credit will be granted for short trips.* In general, five continuous weeks of travel will be the minimum.

6. The foregoing sections shall apply to all regular teachers, wherever they may have been employed during the past three years.

7. The foregoing supersedes and brings to date all previous salary schedule data.

Definition of three-year period: Computation shall start with the date of graduation from normal school, college, or other professional school for all graduating in June, 1929, or thereafter.

Computations for all will begin with June, 1933, since a notice of changes in regulations one year or more in advance of their taking effect is deemed fair to all cases.

PROSPERITY AND EDUCATION

People should understand that before prosperity can return there must be a renewed interest in the spiritual life by both individuals and nations. Nations should realize that the world has always possessed raw materials and labor; but has been prosperous only when the people have been actuated by a religious faith to use these resources for advancement and service. This is the law of life and now is the time when it should be taught in churches, schools, and colleges.—Roger W. Babson.

Bonding Versus Pay-As-You-Go—I

Don L. Essex, Assistant, School Buildings and Grounds Division, State Education Department, Albany, N. Y.

The Relative Merits of the Two Plans

In this article¹ it is proposed to point out and discuss the relative advantages and shortcomings of bonding as compared with the pay-as-you-go policy. More specifically, the relation of each of the two policies to the following considerations will be taken up:

Adequate Provision for School-Building Needs

- Dispensability of Funds Used
- Stability of the Revenue System
- Extravagance
- Justice to Present and Future Taxpayers
- Cost to the School Administration
- Cost to the Taxpayer

Adequate Provision for School Building Needs

It will be evident to anyone that in many communities, if school officials were forced to use the pay-as-you-go plan to finance their school buildings, the buildings simply would not be constructed or else cheap, flimsy structures would be erected that would be wholly inadequate to meet the educational needs of the community. Consider, for example, a city with an assessed valuation of \$30,000,000 desirous of constructing an elementary school costing \$150,000. If the city adopts the pay-as-you-go policy it must increase the tax rate 50 cents on the hundred dollars during the year the building is constructed. Taxpayers would strongly disapprove such a proceeding. If it were proposed to raise the money by a bond issue, there would be objections, but they would be much less strenuous than in the case of the use of the pay-as-you-go plan. In other words, the odds would be tremendously against the building ever being constructed if it were proposed to pay for it directly from taxes. The proposal to issue bonds would give much greater assurance that the building would be erected.

There is still another phase to this question. Which plan, if adopted, gives the greater assurance that the funds necessary for the completion of the enterprise will be secured? Now it is known that school bonds ordinarily are a desirable form of investment. It may be that in some instances this desirability has been secured at considerable cost to the community in the way of interest and premium. But that is apart from the question. The point is, school bonds, if intelligently issued, can always be sold. In other words, a bond issue will bring in the necessary funds.

This may or may not be true with the pay-as-you-go plan. In the case of the city cited above, it is very doubtful if a 50-cent tax rate would produce \$150,000. Evasion and deception may be resorted to by many taxpayers in order to avoid paying all of the excessive charge. As a result tax collections may fall short of the amount anticipated. The existence of the condition of "diminishing returns" is a serious handicap to the successful operation of the pay-as-you-go plan in many cities.

Dispensability of Funds Used

Loans are voluntary; taxation is compulsory. Consequently, loans take money only from those who can afford to part with it. On the other hand, taxation takes money from all whether or not they can afford to part with the funds at the particular time. The man who loans money to the government is content to do

so; he is presumably satisfied with the rate of interest and security offered. The loan, therefore, places no subjective burden on him. At the same time it benefits the nonsubscriber to the loan who is not required to pay *his* money in taxes. Obviously, the money invested in government loans is the money with which the community can most easily dispense. The element of sacrifice for the present is, therefore, reduced to a minimum.

Stability of the Revenue System

It is a fundamental rule of public finance that a revenue system should be stable. A policy of financing improvements that causes rapid and sudden changes in the rate of taxation is the occasion of unnecessary inconvenience and taxation.² Taxes are a most important element in what may be called the industrial environment and for that reason should not be subject to sudden and arbitrary changes. Such changes introduce unnecessary disturbances in business relations and prove a benefit to speculators only. It makes no difference whether rates go up or down; in either case the modifications of unusual relations introduce unreliable factors into business calculations.

It will be obvious that in many instances the use of the pay-as-you-go plan will not allow the tax rate to be held at anything like an even level. A community that builds a schoolhouse at infrequent intervals cannot make use of the pay-as-you-go plan without a disproportionate bulging of the tax rate at the time a building is constructed. The curve of the tax rate over a period of years in a community of this type would be as irregular as the New York City sky line. However, if buildings are being constructed annually, the tax rate may be held at a fairly even level by the use of the pay-as-you-go plan.

Bonding, of course, regardless of the frequency of building, since it distributes payments over a number of years, does not cause sudden and violent changes in the tax rate.

An Inducement to Extravagance

People buy more critically when they are paying cash than when they are paying by installments. When the cost is distributed over a period of time, people are more concerned with the method and amount of payment than they are with the total cost. As a result, they may buy things they do not really need or else pay more than the purchases are worth.

Public finance is no different from private finance in this respect. Taxpayers will scrutinize building projects closely if they have to pay for them immediately. Public officials are less prone to construct unnecessary improvements or to pay exorbitant prices for improvements if they are compelled to justify a considerable increase in the tax rate at the time they advocate such expenditure. The very fact that it is easier and less irritating to borrow money for public purposes offers a greater inducement to extravagance.

Justice to Present and Future Taxpayers

By permitting gradual payment of the original expenditure, loans lessen the burden upon the present and increase the burden upon the future. Is this just?

Should the Future Share the Burden? Suppose that a building is constructed in a community every twenty or thirty years. If the pay-as-you-go plan is used, the taxpayers of one particular year will pay the entire cost. If the building had been constructed the previous

year, a slightly different group of taxpayers would have borne the burden. If it had been constructed a year later, still another slightly different group would have had to pay. The difference in the personnel of the taxpayers would be still greater if the building had been constructed ten years sooner or ten years later. Taxpayers are not a static body, but a changing group. Some die, others grow into the taxpayer's estate; some move away, others move in. There is manifestly no justice in penalizing the taxpayers who, by mere coincidence, happen to be living in the community at the particular time the building is constructed. The more stable the movement of the population, the less injustice there will be; the more mobile the population, the greater the injustice. But injustice is bound to result to some extent if the pay-as-you-go plan is used. Bonding will distribute the cost among all groups of taxpayers, whether they remain in the community one year, ten years, or any number of years.

The Parental Attitude. In connection with the question of the justice of allowing the future to share the burden of financing school buildings, the attitude that a parent should have toward providing the needs of his children is considered by some writers as having an important bearing upon the subject.

A conception of what the parental attitude should be is disclosed by the contention that "No parent worthy of the name would deliberately burden his child with a debt for the necessary things of life he consumes while growing up and getting ready for manhood. Just as every parent owes his children the best opportunities for healthy growth of body and mind, likewise every community owes its children the material housing and the chance for development without making them pay for those necessities when they grow up."³

This conception of a parental attitude is unsound. A man is not simply somebody's son and a schoolboy who has grown up. He is a citizen, a taxpayer, who owes allegiance to the state. He performs this allegiance in part, at least, by supporting the school system through taxpaying. Suppose a man lives in the community described above, where a school building is constructed only once in twenty or thirty years. If the building was built when he was a schoolboy, it is just that he should help to pay for it when he becomes a taxpayer. For it is only the result of a fortunate culmination of circumstances that the building was not erected during one of the years he was a taxpayer—in which case he would pay an enormous share if the pay-as-you-go plan were in operation. Passing the burden along by the use of bonds does not mean that children, when they grow up, have to pay for the educational facilities they have used. It merely means that another group of taxpayers is shouldering a just share of the burden.

As a general principle, then, it may be said that the future should share part of the burden if fairness and justice are to prevail. Bonding permits a distribution of the burden, pay-as-you-go does not. In this respect, then, as a general rule, bonding is more fair and just than pay-as-you-go.

The phrase "as a general rule" is italicized and with good reason. There is an important exception to this rule, namely, if bond issues overlap the future will have to carry more than its just share of the burden.

Overlapping Bond Issues Place an Unjust Burden Upon the Future. Suppose that the life

¹This article and the articles to follow are abridgements of certain phases of a detailed and comprehensive study made by the writer, entitled "Bonding versus Pay-as-You-Go in the Financing of School Buildings." The original study is now in press with the Bureau of Publications, Teachers College, Columbia University.

²Adams, Henry C., *Public Debts*. Appleton, New York, 1893, p. 97.

³Schussman, Leo G., "Long Term School Bonds and the Future," *AMERICAN SCHOOL BOARD JOURNAL*, Vol. 73, October, 1926, p. 65.

of a building is estimated as being fifty years. If the building is to be financed by bonds, the bond term will be fifty years. In this case, there can be no undue burden upon the future, *provided no other building is constructed in the meantime.*⁴

Now, assume that instead of constructing one building in fifty years the community constructs five, each of which will last fifty years. Assume further, for the sake of convenience, that these buildings will be erected at ten-year intervals. Obviously, then, bonds, each of which carry a fifty-year term, must be issued every ten years. It is evident that people living in the first decade will pay interest and amortization quotas on but one issue of bonds, but that those living in the fifth decade will pay on five issues. It is true that the fifth decade will have the advantage of the use of newer buildings and, theoretically at least, better facilities. But this advantage does not justify a fivefold increase in expenditure. After these fifty years have passed, if building continues at the same rate, every decade will pay on five issues. Thus the future will be saddled with a permanent burden that will be unduly heavy in the light of the services it receives.

Now suppose that the frequency of the construction of school buildings increases. Buildings will be constructed, say, every seven years, then every four, then annually. Bonding will increase the burden upon the future as the issues overlap with greater frequency. In cities where bonding is an annual affair, yearly bond payments will in time exceed the whole yearly cost of payments. The exact time when this excess of yearly bond payments over yearly direct payments appears depends upon the rate of population growth of the city, the bond interest rate, and the maturity of the bonds. But the result is inevitable. Sooner or later, if bonding is annually recurrent, school building taxes will be heavier than if each year improvements had been paid directly by taxes and no debt had been assumed at all.⁵

It is conclusive, then, that if bond terms overlap bonding throws an undue burden upon the future, and the greater the amount of overlapping, the larger will be the proportion of the burden that the future must carry. It is true that this burden *may* be alleviated by an increase in property valuation in the community. However, the writer found from a study of the trend in property valuation of 99 cities from 1900 to 1921 that on the basis of a common dollar the property valuation per capita of 50 of these cities, or more than half, actually declined during the 21-year period. Too much dependency, therefore, must not be placed upon the increase in property valuation to lighten the load upon the future.

But what about pay-as-you-go? Will it give greater justice than bonding under the circumstances described above? Consider first that buildings will be constructed every ten years. Pay-as-you-go will place the entire burden upon the people who happen to be taxpayers at the end of each ten-year period. Manifestly, this is more unfair than using bonds. Now as the period of time between buildings becomes shorter, there is a correspondingly less possibility of discrimination against certain groups of taxpayers in the use of the pay-as-you-go plan and, finally, when the point is reached that building is annually recurrent, pay-as-you-go achieves

an equitable and just distribution of the tax burden among the taxpayers.

The Future Will Have Its Own Burdens. Considerable concern has been expressed in the preceding discussion that the future should not be compelled to carry an undue proportion of the burden of financing school buildings. There is reason for this concern. Many people feel that future generations will have their own burdens to support and that these burdens will be even greater than those of the present. Consequently, any burden inherited from the past may seriously interfere with progress.

Cubberley gives an excellent summary⁶ of this point of view in *The Portland Survey*: "If we could see anything to indicate that the people of our American cities will in the near future reach the end of the development of their school systems, or that a city such as Portland would, in thirty years, be largely through with building schoolhouses, it might be wise to spread the payments over a period of years. Those who have studied the problem most, however, can see no such end to the educational process . . . the whole conception of modern education is changing very rapidly, and there is every indication that education, in the broadest sense of the term, will in time become the greatest business of a city or state. In a quarter of a century public education is almost certain to be extended into fields of constructive human welfare of which we do not now dream. Everything that tends to concern child life and advance child welfare and, hence the welfare of the race, as well as most of that relating to the improvement of adults and human life, will in time be regarded as a legitimate function of public education. Those cities will be best able to meet the larger educational needs of the future in a large way which do not now handicap themselves too heavily by bonded debt."

Cost to the School Administration

No one can deny that, in actual cash paid out, bonding is a much more expensive method of financing capital outlays than the pay-as-you-go method. It will be evident to anyone that \$100,000 and no interest will be less than \$100,000 plus interest for a number of years.

In the cost of a \$100,000 straight bond, bearing interest at 4 per cent and running 25 years, the total cost to the community will be \$200,000 or twice as much as would have been necessary if this project had been financed directly.

In case this debt of \$100,000 were financed for 25 years at the same rate of interest by the serial-bond method, the cost to the community would be \$1.60 for every dollar borrowed. If borrowed for 40 years, it would cost \$2.05 for each dollar spent in actual improvements. The higher the rate of interest and the longer the maturity, the greater will be the total cost.

Cost to the Taxpayer

It is evident from this discussion that in terms of the amount of money actually paid out, the pay-as-you-go plan is much cheaper than bonding. But this considers only the cost to the administration and neglects the actual cost to the taxpayer. Take, for example, a school building costing \$500,000 financed by a 20-year bond issue at 5 per cent, all total annual payments being approximately equal. The total cost, including interest and redemption, will be approximately \$800,000, with an average annual cost of about \$40,000. It is plain that this total cost is \$300,000 in excess of the cost by direct payments. But has there been a saving to the taxpayer by use of the bonding method?

Consider the taxpayer whose share of the cost of direct payments will be \$500. He must pay all of this in one year. On the same basis, his share of the total cost incurred by bonding will be \$800; but this amount will be distributed

over 20 years, and the annual charge to him will be but \$40. If the pay-as-you-go plan is used, he will not have the use of his \$500 after the first year. If the bonding plan is used, he can still use \$460 out of the \$500 the first year; \$420 the second year; \$380 the third year; and so on for twelve and a half years. During the next seven and a half years he is no longer paying for the school building, but for the privilege of having his payments distributed over 20 years.

If it is assumed that the taxpayer's money is worth 6 per cent to him, the accumulated interest on the amounts the bonding plan allows him to use totals \$172.20. On this basis, then, bonding costs the taxpayer \$628.80 instead of \$800.

Source of Funds for Taxes. The source of funds for taxes is considered by some an important factor in determining the cost to the taxpayer. Many people frequently assume that a substantial portion of taxes is paid from borrowed money. Now, it is well known that in the absence of any unusual and peculiar influences, the credit of a city stands higher than the credit of any individual within the city. Therefore, it has been urged that city governments, able to borrow money at low rates of interest, should do so and pay for capital improvements with the proceeds of such borrowings, instead of having taxpayers who borrow money at relatively higher rates of interest pay for such improvements currently. To give an illustration often used: If a community can borrow money at 4½ per cent and the taxpayer must pay 6 per cent for a loan in order to pay his taxes, it is better economy for the community to borrow at the lower rate and thus save the taxpayer 1½ per cent.

However, the assumption that a substantial portion of taxes is paid from borrowed money is highly conjectural. It is more likely that they are paid from income.

How the Taxpayer Uses His Money. The use to which a taxpayer puts his money in case it is not collected by the government determines in a large measure the amount of sacrifice that is imposed upon him by the pay-as-you-go plan. The assumption is made by some that this money is used in production, and by others that it is spent in consumption. This, again, is highly conjectural.

It seems to the writer that this controversy over where the taxpayer gets money for his taxes, or how he spends it if it is not paid in taxes, is somewhat beside the point in determining the cost to the taxpayer. In any case a sacrifice on the part of the taxpayer is involved. The sacrifice is greater if he must borrow than if he takes it from income. It is also greater if he would have spent it productively rather than in consumption, since in the former case future earnings will be curtailed. But in any of these instances, the taxpayer must make a sacrifice; and sacrifice is the basic element of cost.

A Problem for the Individual Community

It is very easy to carry to absurdity the theory that borrowing saves a community money. If it were true that a community saves 1½ per cent by issuing bonds, it would be only a matter of time until any community could save the entire cost of its public improvements. As Clark⁷ says: "It is quite evident that the world as a whole cannot increase its wealth by borrowing money at 4½ per cent and earning from 6 per cent up on it. If this could be done, we could create any amount of wealth by the simple process of borrowing. It will be evident to anyone that someone must lend money at 4½ per cent if it can be borrowed at that rate. This should be sufficient evidence that money is worth only 4½ per cent to some people."

⁴If it could be accurately predicted that the life of a building would be a hundred years, and if it could be guaranteed that no building would be constructed in the meantime, then, eliminating the factor of obsolescence, and considering only the matter of equity in the burden of payment, the writer would see no objection to a bond term of one hundred years. Of course, no sane person would attempt to foretell school-building needs a hundred years in the future. Even fifty years is much too far ahead. It is this inability to predict conditions in the distant future that has been an important factor in reducing the length of bond terms down to fifteen to thirty years.

⁵Sumner, Charles K., "Concerning School Bonds," *AMERICAN SCHOOL BOARD JOURNAL*, Vol. 58, January, 1919, p. 26.

⁶Cubberley, E. P., *The Portland Survey*, World Book Co., Yonkers, N. Y., 1915, p. 301.

⁷Clark, Harold F., "Bond or Pay-as-You-Go," *AMERICAN SCHOOL BOARD JOURNAL*, Vol. 77, August, 1928, p. 59. (Concluded on Page 108)

The Use of Blackboards in Elementary Schools

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Two years ago the writer conducted a study of the heights of blackboards in elementary schools and the actual space (vertical) which children used in writing and for their regular daily boardwork.¹ It was stated at the time that no attempt had been made to determine the actual linear space used by the children, though the necessity for this was called to the reader's attention.

Since that time the question of how much blackboard was really required and used, and where it was (or to be) located, has many times intruded itself upon the writer in checking school-building plans and designing small structures. The matter of bulletin-board space had also come to the fore and clamored for an answer.

With such questions in mind a study of the actual situation and that which was called for was undertaken and the results are given herein.

The Set-up of the Study

The set-up, which necessarily called for the questionnaire method, was tried out experimentally in a number of schools by means of three preliminary questionnaires. The first gave rise to misunderstanding; the second one, corrected in this respect, showed other weaknesses; and the third was felt to be "readable and fool-proof." But alas for our overconfidence and our faith in general intelligence, to say nothing of the good opinion we had in our own ability to formulate questions! The reader will have to form his own opinion as to the judgment used by the writer, after reading the list of questions which were finally sent out. Out of 497 blanks returned, 74 could not be used in their entirety. (Only those which could be used completely were recorded, with very few exceptions.) The questionnaire follows:

The Questionnaire

- Grade.....
- How much blackboard space has your room? Lin. ft.
 - At which place? Front side rear (Check).
 - Do you consider this enough too much or not enough for the ordinary work of your classes? (Check).
 - Maximum blackboard space used for pupil activity PER CLASS any day during the week. Lin. ft.
 - AVERAGE space per day used for pupil activity PER CLASS Lin. ft.
 - Do you prefer front side or rear boards for pupil activity?
 - AVERAGE space used for teacher activity PER DAY Lin. ft.
 - Do you use front side or both spaces for your own work?
 - Do you PREFER front side space for your own work?
 - How much bulletin-board space of the same width as blackboards have you? Lin. ft. (This is not to include tack or pinning strips over blackboards.)
 - Is this enough or insufficient for the work of your class?
 - Do you have tack or pinning strips over your blackboards? Yes No
 - Over which boards? Front side rear
 - Do you actually use these strips to advantage or could you do without them readily
 - Remarks:
School City
- NOTE: Please note that dimensions are to be given in linear feet.

The blank was accompanied by brief directions asking that teachers keep a simple record for one week for each class for the various items called for and to enter the respective results in

the blank spaces. As it was a purely voluntary undertaking on the teacher's part to participate in the study, it was felt that 497 returns out of 670 blanks sent out was a very good showing, especially as it took quite a little work on the part of the teacher to get the material in shape.

The Data of the Study

As to the validity of the data, one must make some allowances and no mathematical accuracy is assumed; nor is it called for in the very nature of the problem. The variables involved were such that no great accuracy in the reports from the teachers was expected. But it is believed that the reports received represented the ordinary daily practice of the schoolroom in respect to the use of blackboards. The reader must form his own opinion as to the reliability of the data and the findings.

The statistical material tabulated was voluminous, covering over 6,000 entries. It is impossible to reproduce the various tables as a whole; besides, the raw figures would be of little use to the reader. The tables presented here are those of summaries and totals. This material is of a strategic nature and will serve the reader to get an overview of the whole situation.

The number of blanks sent out was 670 to 76 cities, all of which had full grades assigned per room, grades one to eight. (The kindergarten data were not recorded as they were very incomplete and indefinite.) Of these, 497 blanks were returned from 62 cities, and the final record was made up of 423 room reports from 57 cities. These reports were complete and usable as a whole, with but few exceptions.

From the questionnaire form it will be noted that there are five entries of a mathematical nature, the answer to questions 1, 4, 5, 7, 10. Other answers do not involve figures but rather facts and opinions. Tabular quartiles and medians only are given in the various mathematical tables; the figures in parentheses at the head of each table represent the number of the question on the blank sent out.

The Results of the Inquiry

Table I shows that the median amount of blackboard in place does not vary much from grade to grade; being highest in grade six with 47.5 lineal feet and lowest in grade five with 43.0 lineal feet. The median of all rooms is 45.7 lineal feet. The distribution is exhibited by the quartiles. That there is no marked differential

TABLE I (1). Blackboard in Place—Lineal Feet per Room

Grade	Quartile (1)	Median	Quartile (3)
1	36.3	43.7	52.5
2	40.5	44.9	51.7
3	40.0	45.4	55.6
4	38.9	43.9	51.9
5	38.3	43.0	51.7
6	41.6	47.5	57.3
7	36.9	45.6	55.6
8	34.5	45.5	55.0
Totals	38.6	45.7	53.7 (423)
No BB at rear	33.6	41.1	50.0 (261)
In New Bldgs.	35.1	39.0	43.0 (181)

exhibited between grades may be expected; in practice, rooms are not always used by the grade for which they were originally planned, as shifts must be made constantly due to school population variations. Nor have we any real evidence that a purposeful change in the amount of blackboards assigned to various grades is made in the original planning. The next table bears upon this matter.

Table II refers to the maximum amount of blackboard space used per class during one week of observation. Apparently some variations from normal are included in these results, as some teachers have called attention to this

TABLE II (4). Pupil Activity—Maximum—Lineal Feet per Room

Grade	Quartile (1)	Median	Quartile (3)
1	20.7	30.9	40.4
2	20.0	29.3	37.2
3	16.7	22.0	37.5
4	12.6	24.1	37.0
5	14.9	28.2	39.0
6	18.1	29.1	42.9
7	16.2	35.0	42.5
8	17.3	26.8	35.0
Totals	16.9	28.2	38.7 (423)
In New Bldgs.	16.1	28.0	39.1 (181)

TABLE III (5). Pupil Activity—Average—Lineal Feet per Room

Grade	Quartile (1)	Median	Quartile (3)
1	11.0	17.3	24.2
2	10.1	16.5	25.6
3	10.4	17.0	25.0
4	6.8	10.4	20.0
5	7.8	15.0	23.2
6	6.8	13.2	22.5
7	9.0	16.7	26.1
8	7.2	14.0	19.6
Totals	8.5	15.3	22.1 (423)
In New Bldgs.	9.0	15.0	22.1 (181)

by comments such as: "Had much seat work this week"; "We had a great deal of drill work on the board"; "This week's work at the desks was more than usual"; "We had but three days' work on the board"; etc. The whole number of cases involved, however, was large enough to iron out any variations of this kind, as no doubt corresponding off-sets are contained in the tabular matter as a whole. The medians are interesting and the range wide, as might be expected—from 22.0 lineal feet for grade three to 35.0 feet for grade seven, with 28.2 feet as the median for the whole group. The quartiles show the wide range; there is no consistent range from grade to grade, nor is there any indication that that one grade uses the blackboards consistently more than any other. Table III has a definite bearing on this point.

Average Space Used Per Week

Closely related to the results of the previous table are those of Table III, which represents the average blackboard space used per class in one week. Aside from the median of grade four the medians are not far apart, and the range is not excessive (for the medians). The median of the totals is 15.3 as compared with 28.2 for Table II. There is a slight skew toward the upper quartile as compared with a lower quartile skew for Table II. This may be considered as an "approach" of the two quantities involved.

TABLE IV (7). Teacher Activity—Average—Lineal Feet per Room

Grade	Quartile (1)	Median	Quartile (3)
1	10.5	15.6	20.9
2	11.4	17.9	23.5
3	15.4	19.2	27.3
4	12.5	17.5	24.4
5	12.4	17.9	23.7
6	13.5	17.9	23.3
7	9.0	14.1	22.8
8	9.9	13.3	17.9
Totals	11.5	17.5	23.0 (423)
In New Bldgs.	11.0	16.9	23.8 (181)

Table IV, which shows the number of lineal feet of blackboard used by the teacher (average per week), is noteworthy as it shows a greater space than that used by the pupils. The various medians are surprisingly "compact" and very close to the medians of the total. The range is not as wide as that for the pupil activity. The actual amount of blackboard space (square feet) involved here calls for a differential factor which will be discussed further on.

Table VI shows the actual location of the blackboards in 423 rooms. The "front-side"

¹H. W. Schmidt, "Blackboards: Their Height and Width," AMERICAN SCHOOL BOARD JOURNAL, Sept., 1930.

TABLE V (10). Bulletin Boards in Place —
Lineal Feet per Room

Grade	Quartile (1)	Median	Quartile (3)
1	3.3	5.9	11.7
2	3.2	5.4	11.4
3	3.8	4.9	11.2
4	3.3	5.9	10.0
5	3.7	5.4	10.0
6	3.5	5.6	10.0
7	3.3	4.0	6.0
8	3.1	4.6	8.0
Totals	3.5	4.9	10.0 (423)
In New Bldgs.	3.2	4.0	5.7 (181)

NOTE: This table records only bulletin boards the same width as blackboards. See text and Table X for details.

location carries off the palm with 258 cases, while the triumvirate of "front, side, rear" is represented by 37 per cent of the total. Other combinations are negligible.

The question whether there is sufficient blackboard in place is answered in the affirmative by 373 teachers; 33 have the temerity to state that they have more than needed, while 50 are equally sure they do not have enough. Of the latter, 38 seem to have a clear case as their blackboard quota is below the median for their

wise. The question arises, Why do they use the F-S combination when the median of their average coverage is only 17.5 lineal feet, and they register their almost unanimous approval for the front board? We may assume without question that elementary-school rooms are about 20-23 feet in width and that front boards are mostly in excess of 17.5 feet in length. There is thus apparently no real discrepancy between location preference and the blackboard actually provided.

But it is to be remembered that teachers in their assignment and demonstration work do not use the full width of blackboards as a rule; they also frequently make assignments in advance and cover them up with charts, shades, etc., for future use. This, in connection with the fact that much of the pupil's activity is relegated to the front boards, will account for the fact that many teachers, perforce, use the F-S combination though they prefer the front location and though the median space allotment for the teacher's work could be accommodated on the front board. Of course, all cannot use the front blackboards at the same time and compromises are in order.

TABLE VI (2). Location of Blackboards

Grade	Front	Side	Rear	F-S	S-R	F-S-R	F-R
1	2	0	0	40	1	20	0
2	0	0	0	34	0	21	0
3	0	0	0	32	0	24	1
4	0	0	0	36	0	25	0
5	0	0	0	44	0	21	0
6	0	0	0	29	2	22	0
7	0	0	0	22	0	12	0
8	1	0	0	21	0	12	1
Total	3	0	0	258	3	157	2
In New Buildings..				149	3	32	181

TABLE VII (3). Sufficiency of Blackboards

Grade	Too Much	Sufficient	Insufficient
1	5	52	11
2	6	49	6
3	3	49	8
4	5	55	6
5	3	58	7
6	7	47	6
7	0	30	4
8	4	33	2
Total	33	373	50

Analysis of Insufficiency

8	Below	Median	— 3	Above	Q ₃
5	Below	Median	— 1	Above	Q ₃
6	Below	Median	— 2	Above	Q ₃
5	Below	Median	— 1	Above	Q ₃
4	Below	Median	— 3	Above	Q ₃
4	Below	Median	— 2	Above	Q ₃
4	Below	Median	— 0	Above	Q ₃
2	Below	Q ₁	— 0	Above	Q ₃
—	—	—	—	—	—
36	Below	Median	12	—	—
2	Below	Q ₁	—	—	—

grade — in fact, below the total median. On the other hand, 12 have an amount of blackboard which is above the third quartile. The "too much" group has 22 cases where the amount of blackboard is above the upper quartile, 2 have the median amount and nine are within the lower quartile. It looks as if the 22 were justified in their statements on the basis of the total reported. There are, of course, other reasons which are not in evidence here.

Preferred Placement of Blackboard Work

As the pupil activity is naturally spread over most of the available blackboard space or is dependent upon the size of the class, the nature of the instruction and other local factors, a question touching upon these variable phases was not formulated for obvious reasons. But it was desired to obtain the teacher's reaction as to where she preferred the pupils' work to be done. Table VIII gives this information. The last columns give the order of preference numerically; i.e., for grade one the order is F-S, S-R, F, with 26, 21, 12, and 10 cases, respectively. On the basis of numbers the F-S combination heads the list with 131 cases; 111 prefer side location, while 6 bring up the rear with a threefold combination.

Teachers' work activities at the blackboards are confined to 3 locations: 322 with a F-S combination, 91 with a front, and 10 with a side location. Their preference, however, is listed quite differently: 369 prefer the front board while only 48 register their preference other-

Bulletin Boards

The situation as to the amount of bulletin-board space provided is set forth in Tables V and X. The former gives the amounts in place, while the latter has some additional data. Out of 410 rooms reporting, 65 have no bulletin boards of any kind. As to the 345 that have this convenience it is quite evident that many do not have cork or other porous surface boards. This is shown by both observation and the remarks volunteered on the blanks, such as: "We have

a few odd pieces of burlap"; "The boys in manual training made a Beaver-board screen"; "I have some wall paper which I use"; "We use thumb tacks on the wooden walls when we need to put up work"; "I use wires strung up around the room"; "I paste my clippings and material on a piece of old slate"; "We have an old cloth screen"; etc.

Out of 410 reporting, 251 state that they do not have sufficient bulletin-board space. (This includes the 65 who have no bulletin boards at all.) One teacher who has no such device states: "Don't need one." Table X is interesting and is to be interpreted as follows: In grade one the median bulletin-board space is 5.9 lineal feet (same width as blackboard; at least that information was called for on the blank). Twenty-four teachers report they have enough bulletin board; 37, including 12 who have no boards, state they have an insufficient amount. These 37 represent 60.6 per cent of those reporting for this grade. Ten of them, or 27.0 per cent, have over the median amount in place; i.e., over 5.9 lineal feet.

Evidently much more bulletin-board space is being called for by the classroom teachers. This appears quite in line with the newer teaching techniques.

Pinning or tack strips over the blackboards are not found as frequently as might have been expected, only 157 out of 423 having them. One of the reasons is, no doubt, the number of older school buildings reporting. Table XI gives the distribution and is self-explanatory. The answers to question 14 are, with 11 exceptions, definitely positive. Many teachers who are without these strips call for them under "remarks," with some emphasis on the lower-grade rooms, as no "requests" were made or found above the fourth grade. The data were, however, not of sufficient volume to make this conclusion a definite one.

Progressive vs. Conservative Schools

In studying and analyzing the results of the statistical tables and material, one question, among many others not readily answerable, kept coming to the fore. The 57 cities represented included all types of educational work — good, indifferent and one suspects some poor — as well as that which may be designated as progressive, conservative or occupying middle ground. The question referred to is: What, if any, is the influence on pupils' board work in those schools which are considered progressive in the educational sense? Are the pupils required, or do they use the blackboards as much as do those in the other schools? What is the influence, if any, on the teacher's board work? It can readily be seen that the answers to these questions may have some bearing on the amount of blackboard to be placed in the modern schoolroom.

TABLE VIII (6). Pupil Activity—Preferred Location

Grade	Front	Side	Rear	F-S	S-R	F-S-R	No Pref.	Significant Order
1	10	21	2	26	12	0	0	FS S SR F
2	7	15	4	17	11	0	1	FS S SR F
3	13	14	2	19	6	2	0	FS S F SR
4	9	19	6	14	10	0	2	S FS SR F
5	15	9	2	23	11	4	0	FS F SR S
6	10	18	1	13	9	0	0	S FS F SR
7	5	9	0	9	8	0	0	FS S SR F
8	11	6	0	10	6	0	2	F FS SR S
Total	80	111	17	131	73	6	5	FS S F SR

131 111 80 73

TABLE IX (8-9). Teacher Activity

Grade	Location of Work	F-S	Preferred Placement	F-S
1	F	10	5	44
2	F	10	1	44
3	F	10	0	46
4	F	12	1	49
5	F	15	0	59
6	F	11	2	37
7	F	11	1	21
8	F	12	0	22
Total	91	10	322 (423)	369

21 27 (417)

TABLE X (10-11). Bulletin-Board Data

Grade	Enough		Insufficient		Per Cent of All Reporting	Data on Insufficiency					
	Including	"None"	Including	"None"		Of these,	have over	Median	L. Ft.		
1	24	37	12	60.6	Of these, 10 (27.0%)	have over	Median	5.9	L. Ft.		
2	21	33	8	61.1	Of these, 9 (27.2%)	have over	Median	5.4	L. Ft.		
3	22	35	9	61.4	Of these, 16 (45.7%)	have over	Median	4.9	L. Ft.		
4	26	33	6	56.3	Of these, 8 (24.2%)	have over	Median	5.9	L. Ft.		
5	23	37	14	61.5	Of these, 16 (43.2%)	have over	Median	5.4	L. Ft.		
6	19	32	7	62.7	Of these, 10 (31.2%)	have over	Median	5.6	L. Ft.		
7	12	22	4	64.7	Of these, 9 (40.9%)	have over	Median	4.0	L. Ft.		
8	12	22	5	64.5	Of these, 7 (31.8%)	have over	Median	4.6	L. Ft.		
Total	159	251	65	61.2	Of these, 85 (33.8%)	have over	Median	4.9	L. Ft.		

TABLE XI (12-12). Location of Pinning Strips

Grade	Front		Side		Rear		F-S		F-R		S-R		F-S-R		Total
	Side	Rear	F-S	F-R	S-R	F-S-R	Total								
1	3	0	1	12	0	4	12	32							
2	1	5	0	12	0	2	3	23							
3	2	5	1	14	0	0	0	22							
4	1	0	0	5	0	0	12	18							
5	2	0	0	6	0	2	8	18							
6	1	0	0	12	0	1	3	17							
7	1	1	0	6	0	1	1	10							
8	4	0	0	7	0	1	5	17							
Total	15	11	2	74	0	11	44	157							

The writer, who is quite familiar with the work of many of the schools in question, bolstered up his own opinion by those of 5 other supervisors who had first-hand knowledge of the work in these schools. A separate list of the cities was made, and a classification was set up of those schools which were considered progressive by at least four of the supervisors to whom the list was submitted. The significant data for questions 5 and 7 were set aside, and the result tabulated.

What the Progressives Reported

Table XII compares the pupils' blackboard work of the "progressive" schools (197) with that of schools classed as conservative (226) and with that of the total number of schools reporting (423). The result is interesting. The median differential is only 1.3 lineal feet in one case and 2.8 lineal feet in the most advantageous situation; i.e., progressive vs. conservative. For the lower quartile the differential is insignificant, though for the third quartile it jumps to 7.1 lineal feet, quite a significant figure.

TABLE XII. Comparative Pupil Activity — Lineal Feet per Room

	All Schools (423)	Progressive (197)	Conservative (226)
Quartile (1)	8.5	8.1	8.9
Median	15.3	14.0	16.8
Quartile (3)	23.3	19.9	27.0

TABLE XIII. Comparative Teacher Activity — Lineal Feet per Room

	All Schools (423)	Progressive (197)	Conservative (226)
Quartile (1)	11.5	11.6	11.4
Median	17.5	16.3	17.0
Quartile (3)	23.0	23.6	22.8

Table XIII compares the groups with regard to teachers' activities at the blackboard. The median differential is very small, and the quartile differences are not even significant figures.

It is believed that the number involved in each group is large enough to warrant some inferences to be drawn. Evidently the pupils' use of blackboards in those rooms classed as progressive is somewhat less than that in the conservative schools, though the median differential is not as yet very large and less than the writer expected on the basis of observation. Possibly it may never be very large.

The use teachers make of blackboards is evidently virtually the same in all groups, despite the newer techniques, opinion to the contrary, and despite the extended use of various duplicating devices. Are we still wedded to the old, or do teachers feel that nothing can take the place of the good old demonstration method? Or do teachers give out more material to pupils than formerly, using the blackboards and augmenting them with duplicator material? Maybe we have rationalized to the extent that we believe blackboards are used less than formerly!

An extended and careful study on this point may be called for some time; at this time, however, the writer is of the opinion that the answer lies in the direction of "more work." This is, of course, a subjective opinion based upon observation alone.

Blackboards in New vs. Old Buildings

There is also another situation confronting us. The reader may have already mentally voiced the thought, "What about the new and modern school buildings? Are the conditions as to placement of blackboards and bulletin boards the same as those in the older schools?" Of course, the other factors discussed in this thesis are not materially influenced by the type or age of the school building. At least let us hope that the influence of environment has not yet reached that stage.

Of the 57 cities reporting, only 25 have what may be called modern buildings, of which 11 have been erected within the past 6 years. The detailed reports (not tabulated here) show that the older buildings are the ones which give rise to the extremes in the amounts of blackboards in place and their location. The variations from the trends are noted in Tables I to V. Though the actual situation is somewhat different from that of the older buildings in respect to placement, yet in the reports contained in Tables II to IV very little variation from that of the group is shown, in most cases not even approaching a significant figure. This has been foreshadowed and was expected, though one might have reasoned that possibly restricted blackboard space might have curtailed pupils' activities; actually this is not the case.

A Typical Classroom

Utilizing our total figures we may describe a typical elementary-school room as one which has blackboards at the front and side walls of the room with a total length of 45.7 feet. About one half of the rooms have boards on the rear wall as well. A little more than one third of all the rooms have pinning strips above the blackboards. As only 65 out of 423 rooms report no bulletin boards, we may say that this typical classroom has a total of 4.9 feet of bulletin board of the same width as the blackboards. Although no reports were called for as to the location of these bulletin boards, lengthy observation shows that in many buildings, especially the older ones, these auxiliary boards are located "where there is room." Rear walls, a small vacant space here and there, between and under windows, and even under blackboards are all spaces utilized for this purpose. Quite a number of reports give this information voluntarily. In nearly all new buildings we find them mostly located near doors or in spaces where the children have visual access to them. In some instances we find them placed where there hap-

DR. B. O. SKINNER
State Director of Education for Ohio.

Considerable interest was manifested in Ohio as to the probable successor to Dr. John Clifton, who headed the state school department. The Governor appointed President Skinner of Wilmington College. Before entering upon this position he had served as superintendent of the Marietta schools for twelve years. He was superintendent of schools for nine years at Athens before going to Marietta.

Dr. Skinner was born in 1875 near New Lexington. Entering school work as a rural teacher in Perry County, he was subsequently a high-school teacher at Streator, Ill., and Chillicothe, Ohio; principal of a high school at Waverly; township superintendent in Pike County; member of the Ohio University faculty; and teacher at Fairmont, W. Va., State Normal School and at Wooster College. He is a graduate of Ohio and Chicago universities.

pens to be some room, and some cases have been observed where the boards are used for ornamental purposes or fillers.

If we heed the inferences drawn from Table X, we shall have to increase the bulletin space materially over the median. How much, we do not know; as some teachers have expressed themselves, "we cannot have too much bulletin-board space."

As to material, we have quite a number of specific reports from teachers who commented derogatorily upon the material in place: Old burlap, 21; pieces of denim or cloth, 5; some pieces of cardboard, 10; strips of Beaver board, 13; I use wires to string my material on, 6; we use an old screen, 5, etc., are among the more common complaints. A check of the schools which report as above shows that most of the reports are from the older schools, though a number come from new schools.

In this typical classroom the teacher will use the front board as well as some of the side board for her work (17.5 lin. ft. med.). She will have the pupils use the same boards, in part, for their work. The teacher would prefer to use the front board only for her work, but she finds from necessity that the pupils must also use this board somewhat. These conditions and opinions and preferences will lead to compromises where the teacher will use as much of the front board as possible for her own work, "as pupils can usually see this board better than any other," and use the upper part of the side board for an overflow. (See the writer's previous study referred to.) The pupils will use most of the side boards for their activity and the front board as an auxiliary. A few will use the rear boards, though from the replies received the rear boards are not favored by most teachers. The use of the rear boards is evidently a factor dependent upon the dearth of other blackboards or the size of the classes.

The New Classroom

If we are to use the revised figures obtained from the reports of the newer school buildings, we will find that virtually the only changes from the previous assumptions are those in con-

(Concluded on Page 107)

Helping the New Teacher Get Started

S. N. Stevens, Assistant Professor of Psychology, and S. A. Hamrin, Assistant Professor of Education, Northwestern University

The new teacher in a school has many adjustments to make if she is going to be of immediate value to the school, adequate to her task in the classroom, and happy in her work. Morale, as a form of *esprit de corps* of a teaching staff, is not accidentally developed, but arises out of a studied program of sympathetic cooperation and understanding in which the administration and the satisfactorily established teachers assist the new ones in their efforts to adjust to the novel school situation.

In a recent study in high-school administration, more than one thousand teachers were asked as to whether they had any suggestions to offer which might help to improve the administration of their schools. The majority of the teachers responded to this invitation by giving their views as to what they considered to be constructive needs in their own schools.

A striking fact was revealed when these suggestions were analyzed. The new teachers in their respective schools almost unanimously made statements concerning types of assistance which the administration might offer new teachers which would facilitate their process of adjustment to their situation. Some of the representative comments follow:

What Teachers Asked

"As a new teacher, I felt that there was a lack of instruction and information given me about the general routine, regulations, and methods of procedure in this school. It would improve the administration of the school if incoming teachers were given some instruction along this line."

"A printed handbook explaining all routine matters would be a great help to new teachers."

"A bulletin containing definite suggestions as to efficient procedure in handling study halls or advisory groups, data regarding roll, checking absences, library passes, leaving the room, etc., would be helpful both to new teachers and to those new at taking care of study halls."

"A teachers' get-acquainted party in the fall—some way to find out who everyone is early in the year."

"Our school should learn how to cope with the problems of new young teachers without jealousy and the interference of cliques."

The suggestions of these newly employed teachers involved three rather well-defined types of activities which the administration might carry on in their behalf. First, there was expressed the need of the development of materials containing general information about the school. New teachers want to know school policies, school regulations, routine procedure, the attitude of the administration toward school activities, and the like. In the second place, these teachers felt the need for more general information about the city in which they were to live. Particularly were they eager to have more knowledge of the available living quarters, the costs of such rooms or apartments, and their location with reference to the school. The regularity with which this type of information was mentioned as being desirable reveals the significant relationship existing between a satisfactory housing situation and contentment with the job itself.

Personal and Friendly Interviews

Third, suggestions were made concerning the feasibility of personal interviews with administrative officials both before the beginning of

the work of the year and especially during the first weeks of teaching. There was a definite indication that such friendly conferences between the new teacher and her superior officers would serve to help orient the teacher in her work, at the same time establishing a friendly as well as professional basis for cooperation. A sponsor system was frequently approved as one means of helping to accomplish this adjustment. In this arrangement, an older and more experienced teacher sponsors the new arrival, introducing the younger teacher to her associates, and by her friendly wisdom, guiding her protégé through the first difficult weeks.

Business and industry have long recognized the positive effects of a sympathetic follow-up of the worker after he has been selected for a job. Some organizations go so far as to supply the new recruit with specific information as to homes, apartments and rooming houses, the places to eat and shop, as well as many other suggestions which would facilitate the process of making an easy and happy adjustment on the part of the worker in a personal way. The school administration cannot afford to be indifferent to these needs of the new teacher. It pays big dividends in industry and costs little. It will likewise pay big dividends in public-school relationships.

The Authority of Boards of Education to Enforce Rules

The legal authority of boards of education to enforce rules and regulations governing the administration of the schools is liberally interpreted by the courts. It is indeed rare to find a situation in which the school authorities are not clothed with ample power to enforce that discipline and order which is necessary for the successful management of a school system.

"Statutes usually confer upon boards of education broad powers with respect to the conduct and management of the schools. Since it is impossible for the statutes to enumerate in detail the powers which a board may exercise, the courts are frequently called upon to decide whether a board of education has exceeded its authority in attempting to enforce a particular rule or regulation."

So says Newton Edwards, of the University of Chicago, in a recent discussion of the subject in the *School Review*. He continues by saying: "In determining whether school officers or teachers have authority to enforce a particular rule or regulation governing the conduct of pupils, the courts universally apply the test of reasonableness. It is well established by a great number of cases that school officers may enforce any rule which is reasonable and which is necessary to promote the best interests of the schools. The courts are, indeed, very reluctant to declare a board regulation unreasonable. They will never substitute their own discretion for that of the school authorities; the enforcement of a rule will never be enjoined because, in the opinion of the court, the rule is unwise, or inexpedient; a rule will not be set aside unless it clearly appears to be unreasonable."

What is Reasonable?

On the question of "reasonableness" Mr. Edwards enters into an illuminating discussion which he backs up with court decisions. Thus

A Program of Orientation

The following program is included to suggest the basic factors which should be included in an orientation program for new teachers:

A. Information

1. A handbook containing specific information about the school system, its policies, rules and regulations in regard to all routine matters.
2. A map of the city, a list of available rooms and apartments and a city guide.

B. Professional Orientation

1. The superintendent, principal, and department head, should interview the new teacher after her arrival, but before she commences work, in an endeavor to help her get a good start professionally.
2. Follow-up interviews should be held at regular intervals, especially during the first few weeks.

C. Social Orientation

1. The new teacher's sponsor should assist especially in this regard. In addition to helping her make social contacts, the sponsor can furnish her with much sympathetic advice and guidance as needed.
2. The faculty as a whole should plan social events, which will assist in making the new teacher's social life pleasant.

he says: "A board regulation is not reasonable or unreasonable per se; its reasonableness is determined by the circumstances of each particular case. A rule which is reasonable in a warm climate may be unreasonable in a cold climate; a rule may be reasonable when applied to a boy of 16 but unreasonable when applied to a girl of 6."

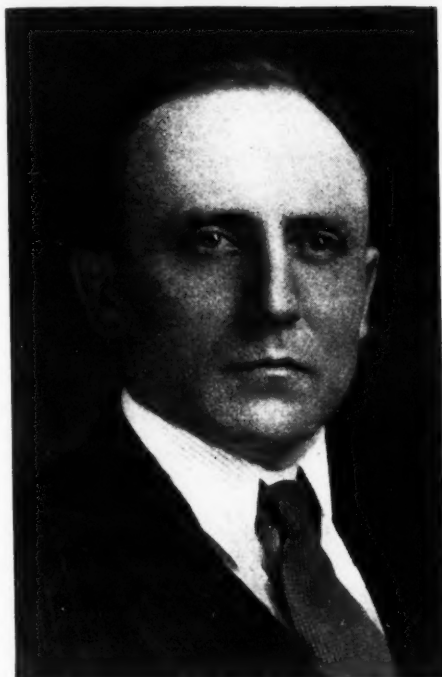
If boards of education fail to formulate rules and regulations, superintendents, principals, and teachers may make and enforce such reasonable rules and regulations as may be necessary in the administration of the schools. Inasmuch as the teacher stands *in loco parentis*, he may enforce obedience to any reasonable and lawful commands.

"Neither school boards nor teachers, however, may enforce rules governing the conduct of pupils with respect to matters over which the board has no jurisdiction. That is, the conduct which the board undertakes to regulate must have some direct relation to the management and wellbeing of the school."

"In a Wisconsin case, for example, a pupil was expelled from school for refusing to obey a rule which required each pupil of sufficient bodily strength, upon returning from the playground from recess, to bring in a stick of wood fitted for use in the stove. In holding that the rule could not be enforced, the court pointed out that the school board must confine its rules to matters which concern the education of pupils or discipline in the school and that it could not, according to its fancy or humor, enforce rules on all manner of subjects."

Enforcing Unreasonable Rules

"Where an attempt is made to enforce an unreasonable rule or a rule which is *ultra vires*, recourse may be had to the courts on the part of the persons aggrieved. The school officers are



N. E. VILES
Director of Schoolhouse Planning and Construction
for the State of Missouri,
Jefferson City, Missouri

Mr. N. E. Viles, formerly superintendent of schools at Neosho, Mo., has been appointed director of schoolhouse construction for the State of Missouri. This is a new position in state educational work for which Mr. Viles is eminently fitted by training and experience. He has been intensely interested in school-building activities and was in direct charge of a survey of school buildings in Neosho.

Mr. Viles is a graduate of the Southwestern Missouri Teachers' College and holds two degrees given by Missouri University. He will complete his advanced graduate work at Peabody College this summer preparatory to taking up the state work.

not themselves the final judges of what constitutes a reasonable regulation. Moreover, whether a rule is or is not reasonable is a matter of law to be determined by the court and not a matter of fact to be determined by the jury. On this point the supreme court of Iowa said:

"It was certainly never the intention of the legislature to confer upon school boards, superintendents of schools, or other officers discharging quasi-judicial functions, exclusive authority to decide questions pertaining to their jurisdiction and the extent of their power. All such questions may be determined by the courts of the state."

"A court will, therefore, enjoin the enforcement of an unreasonable rule; or, if a pupil has been excluded from school because of disobedience of an unreasonable rule, a court will issue a writ of mandamus requiring reinstatement of the pupil."

"The courts will determine whether a rule governing pupil conduct is reasonable; they will not, however, review the findings of a school board with respect to facts. That is, whether a pupil has or has not been guilty of certain conduct is a matter of fact to be determined by the school authorities and will not be reviewed by the courts unless it can be shown that the school authorities have acted maliciously or in bad faith. In an Illinois case, as an illustration, a pupil was expelled from school because he had joined a secret society in violation of a rule of the board of education. The pupil contended that he was not a member of the society and had not, therefore, violated the rule. The court refused to review the finding of the board as to the facts and said:

"The power to determine what constitutes disobedience or misconduct lies within the board of education, and under no circumstances except where fraud, corruption, oppression, or gross injustice is palpably shown, is a court of law authorized to review the decision of the

board of education, and to substitute its judgment for that of the board. . . ."

"The power of the board to exercise its honest and reasonable discretion in such cases without the interference of the courts is well settled."

Injury to School Property

In discussing the authority of school officials to require pupils to pay for injury to school property, Newton Edwards presents the following:

"The courts are in agreement in holding that boards of education may not require pupils to pay for injury to school property if the injury grows out of acts of neglect or carelessness. In a Michigan case, a school board attempted to enforce a rule to the effect that any pupil who should deface or injure school property should be suspended from school until full satisfaction was made. While playing, a pupil negligently and carelessly broke a window in the schoolhouse. The father of the pupil refused to pay for the window, and the child was suspended from school. In holding that the rule was unreasonable, the court pointed out that a pupil can be expelled only for willful or malicious acts. Moreover, the practical operation of such a rule might, in some instances, have the effect of depriving poor children of the right of a common-school education."

"The supreme court of Iowa has placed the unreasonableness of such a rule upon even broader considerations. It has said:

"The state does not deprive its citizens of their property or their liberty, or of any rights, except as a punishment for a crime. It would be very harsh and obviously unjust to deprive a child of education for the reason that through accident and without intention of wrong he destroyed property of the school district. Doubtless a child can be expelled from school as a punishment for breach of discipline or for offenses against good morals, but not for innocent acts."

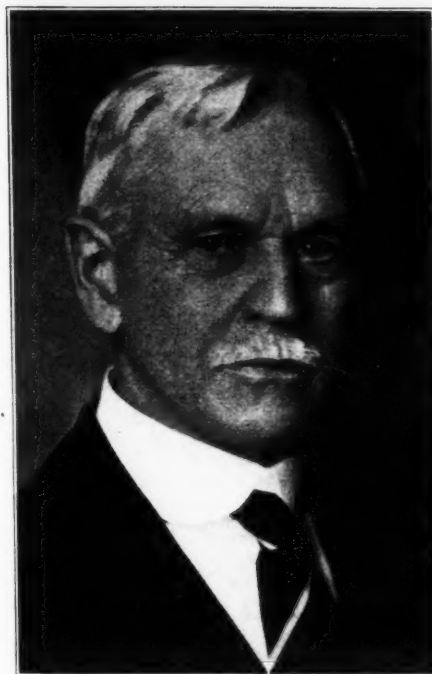
"In this case the plaintiff was expelled, not because he broke the glass, but because he did not pay the damage sustained by the breaking. His default in this respect was no breach of good order or good morals. The rule requiring him to make payment is not intended to secure good order but to enforce an obligation to pay a sum of money. We are clearly of the opinion that the directors have no authority to promulgate or enforce such a rule."

The Matter of Health Regulations

"Since attendance at the public schools is a privilege extended by the state, the state may, through properly constituted authorities, exclude from school all pupils whose presence would jeopardize the health of other pupils. Thus pupils who are merely suspected of being affected with a contagious disease may be excluded from school."

"The charter of the city of Minneapolis provided that the board of education should have 'the entire control and management of all the common schools within the city . . . and make rules and regulations for the government of schools.' Pursuant to authority thus conferred, the board of education enacted rules whereby principals and teachers were required to 'be on the alert to discover suspected contagious diseases, filth, or vermin, and physical and mental defects.' A child suspected of being infected with a contagious disease was to be excluded from school until an examination revealed the absence of infection."

"The pupil, who was a member of the Christian Church, refused to comply with the demand of the board. She contended that the rules of the board were illegal in that they violated a constitutional provision which prohibited the legislature from delegating legislative powers."



HERBERT W. LULL
Newport, Rhode Island

Dr. Herbert W. Lull, for the past 31 years superintendent of schools of Newport, R. I., was on June 22, elected superintendent emeritus in recognition of long, faithful, and efficient service as superintendent of schools. Dr. Lull's service record covers 57 years as a teacher, supervisor, and superintendent of schools.

Dr. Lull, who was born in Boston, was educated in the schools of Woburn, and entered Harvard University in 1870. Following his graduation in 1874, Dr. Lull was made principal of the high school in Manchester, N. H., and later held similar positions at Milford and Quincy, Mass.

In 1892, Dr. Lull was elected superintendent of schools in Quincy, and in 1900 went to Newport.

Dr. Lull is a member of the first Rhodes scholarship committee in Rhode Island, and is an active member of the National Education Association and the Department of Superintendence. The Rhode Island College of Education gave him the honorary degree of doctor of education in 1927.

In other words, the rules of the board were not merely administrative regulations but legislative enactments. It was further contended that the board of education had no authority to make the rules in question because the matter of public health had been delegated to the board of public welfare. Finally, the rules were attacked as being arbitrary and unreasonable. The court overruled all these contentions and sustained the rules in an opinion from which the following quotation is taken:

"To have the entire control and management, with power to make rules and regulations, means almost every power necessary or essential for the proper administration of such schools. It must be conceded by all that one of the primary duties of the board is to protect the health of the many children in their charge. Persons differ only in how this is to be accomplished. Efforts for prevention do much to avoid an epidemic. The demand upon the board for vigilance in this respect is imperative. All authority exercised in the protection of the public health is to be liberally construed. We hold that the language of the charter by fair implication confers upon the board of education the power to make and enforce the rules involved. In fact, it could not effectually carry out the purposes for which it exists without such power. . . ."

"The court concluded its opinion by pointing out that the rules of the board were reasonable and should not be disturbed by the courts."

With Respect to Vaccination

"In the exercise of its police power a state may require that all persons be vaccinated. A statute of Massachusetts, for example, required the inhabitants of a city or town to be vac-

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Thirteen Principles of School Accounting in Action

Jay L. Chambers, Muskingum College, New Concord, Ohio

As a matter of convenient reference the Thirteen Principles of Public-School Accounting which were set up and discussed in the May issue of THE JOURNAL are listed below:

1. There should be sufficient uniformity of classification of accounts to provide for state- and nation-wide comparisons of major items.
2. There should be sufficient diversity provided to satisfy local peculiarities.
3. The feeling of local responsibility for the efficient and economical administration of all funds should be preserved and encouraged.
4. Internal checks should make pilfering of the funds highly improbable.
5. The system should make state supervision and inspection a minor factor rather than a major one.
6. The principle of contractual obligation should prevail.
7. Receipts should be accounted for both as to fund and source.
8. Expenditures should be accounted for both as to fund and function.
9. It should be possible to expand and contract the system to suit the needs and sizes of all administrative units of the public schools of a state.
10. Frequent financial reports should be required.
11. The training of the clerks who are to keep the records should be taken into consideration when forms are devised.
12. The system should provide for a complete record of all assets and liabilities.
13. The principle of fund accounting should control.

These principles will be applied to the public-school accounting systems of Indiana, New Jersey, New York, North Carolina, and Ohio. The application will of necessity be made in a general way. To make a thorough and specific application would necessitate as much, or more, space for each state as is given here to the five. In addition, a comprehensive study of the minute details of each state system would need to be made. Such application is desirable where a state is modifying its present accounting records, or planning new ones. The purpose of this article, however, is merely to demonstrate the possible uses of the principles.

Exhibit I has been designed to give a bird's-eye view of the application of all thirteen principles to the accounting systems of the five states selected for this purpose. The numbers at the heads of the columns represent the principles in their chronological order. The principles will be attested to the states *seriatim*.

The Principle of Uniform Classification

1. All five states have sufficient uniformity of classification to admit comparison of major items of expenditures, but every state has a different classification of income items. Little attention has been given to the classification of income items for public-school support. While it is possible in most cases to secure the income

chase discounts are frequently added to the net operating income as a financial or management income, but in institutional accounting this should not be the procedure. It inflates the real income for the school districts of the state and creates an error in making comparisons with the total incomes of other states which conform more regularly to institutional accounting.

New York accounts for school receipts under the following divisions: State Fund; District Tax; Loans, Bond Sales; Tuition; Sale or Rent of School Property; Fees, Penalties, Gifts; Insurance Adjustments; Other Sales. The receipts are not divided into funds from which deductions are made as money is disbursed. In the smaller districts it appears that a very simple cash-receipt record suffices the state prescription (Fig. 1).²

Dr. CASH BOOK				
Date	From Whom Received	Purpose	Amount	

CASH BOOK							Cr.
Date	To Whom Issued	Check No.	Amount Paid	Dis-count	Deducted for retirement fund	Total	Voucher No.

FIG. 1. FORM FOR GENERAL CASH BOOK

North Carolina establishes funds under the general titles of the main expenditure divisions of the "national system" under which receipts from various sources are entered. The whole receipts department is further divided to show current funds, interest funds, and others.

Ohio establishes General Fund, Retirement Fund, Sinking and Bond Retirement Fund, and other special funds voted by the school district. This state also requires separate receipts accounts under the various funds.

Classifications used by Indiana and New Jersey differ from each other and from the other states.

Many states record the school receipts by sources in a chronological order, making no attempt whatever to set up columnar or ledger accounts to give totals of the several sources. Then by a tedious process the clerk must go

our common belief that state school systems in general should be founded upon the habits, needs, and philosophies of the people they serve, and that each phase of a state school system be an expression of these habits, needs, and philosophies. Accounting methods are not made exceptions to this democratic attitude.

For recording disbursements of the small districts, New York advises the use of an ordinary ledger in which accounts may be set up under the eight major divisions of the "national system." For the larger districts a distribution method is recommended.³ The distribution method forms attach importance to keeping a budget records of the four major budget accounts, but not to the minor accounts. The major budget accounts are Current Expenses, Salaries, Miscellaneous, Capital Outlay.

Ohio uses all the minor item accounts recommended in the "national system," but arranges them under the following major divisions: Personal Service; Supplies; Materials for Maintenance; Equipment Replacements; Contracts and Open Order Service; Fixed Charges and Contributions; Contingent; Debt Service; Capital Outlay. This classification dovetails into the accounting systems of other Ohio institutions. The Ohio system shows an unencumbered balance for every budget item. The several accounts are so arranged that the information needed for the United States Office of Education Report may be determined with little difficulty.

The state school laws of New Jersey demand that the receipts and disbursements of school funds shall be recorded under the following major classifications: Current Expenses; Repairs and Replacements; Manual Training; Vocational; Continuation Classes; Evening Schools for Foreign-Born Residents; Library; Debt Service; Capital Outlay. The state department of education has designed a set of forms which will take care of this state requirement and in addition, keep the disbursements under the general provisions of the "National system."

North Carolina classifies her expenditures first by funds, then by major divisions of the "National system." North Carolina also keeps separate all disbursements of the first six months of the school term from the remainder of the term because one of the bases of distributing the state equalization fund is the expenditures of the first six months. The state also separates the disbursements of White, Negro, and other race schools.

The most distinctive thing about Indiana's accounting requirements is that any person who presents a bill to a school board for payment must take an oath as to its accuracy.

Local Responsibility

3. The principle of local responsibility is one in which the educational leaders of most states have little faith. Most states assume control of and responsibility for the expenditure of local school-district funds. American school administrators are imbued with the false political doctrine that authority and responsibility must follow the dollar. Of course, this doctrine is contrary to the principles of democracy. In a democracy, the rights of the people alone should constitute the standards of authority and responsibility.

New York and North Carolina are more democratic in one respect than the other states of this group. The responsibility of seeing that school funds are wisely administered and accounted for is left largely to the school districts. These states reserve the right to make inspec-

TABLE I. Application of the Thirteen Principles

Name of State	Principles												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Indiana	P	Y	N	N	N	N	Y	Y	P	N	Y	P	N
New Jersey . . .	P	Y	N	N	N	Y	Y	Y	P	N	P	P	N
New York	P	Y	Y	N	Y	P	N	N	P	N	Y	P	N
North Carolina .	P	Y	Y	N	Y	N	Y	Y	P	Y	Y	P	N
Ohio	P	Y	N	N	N	Y	Y	Y	Y	Y	N	P	N

Key: 1. Principles are numbered chronologically as they appear in the body of the article.
2. Y—yes, N—no, P—the principle is partially applicable.

of any general source, educators have not sought to make general classifications of income sources.

The State of New York has a practice of adding to the total income of a school district all discounts on bills payable and deductions for retirement funds.¹ This practice doubtless encourages school boards to discount their bills when possible. In business accounting the pur-

through the receipts journal at the close of the year and classify the receipts for the inevitable annual report.

Diversity to Meet Local Needs

2. There has never been a sustained move to have all states adopt an identical system for the recording of the financial transactions of public schools. A dead uniformity even in accounting would not appeal to the American mind. It is

¹Handbook of Instructions. The University of the State of New York, p. 4.

²Ibid., p. 3.

³Alice C. McCormack, Chief Statistics Bureau, State Educational Department, Personal Letter, March 18, 1931.

School Administration in Action

ADMISSION OF UNDER-AGE PUPILS

Anson E. Handy, Plymouth, Mass.

Every educator realizes fully that the chronological age of a child should not be the determining factor for admitting pupils to the first grade. It is difficult, however, to fix satisfactory, definite standards in a school system which is without a kindergarten. Many school boards require children to have reached their sixth birthday on or before January 1 following the September opening of the school. Some schools have been experimenting with this problem for several years and have been admitting children who are underage chronologically but who have passed a psychological test with a sufficiently high mental age. For the past six years Plymouth has required a mental age of 5 years and 8 months, but has put no restrictions on the chronological age, even testing pupils who chronologically were only 5 years of age, and 4 children just under 5 years old. Of these last only one passed with a high enough score to be admitted to school.

There are now 207 pupils in the first six grades who have entered by this means. Have these been able to do the work? The following table shows a summary of their marks:

Distribution of Marks According to Grades													
	Grade I		Grade II		Grade III		Grade IV		Grade V		Grade VI		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Repeaters	21	10.5	6	4.3	1	1.0					1	6.7	29
C	41	20.5	32	23.0	23	24.2	20	33.3	12	37.5	2	12.5	130
B	74	37.2	65	46.4	45	47.3	20	33.3	10	31.3	7	43.2	221
A	63	31.7	37	26.4	26	27.4	20	33.3	10	31.3	6	37.5	161
Total	199		140		101		60		32		16		

There have been 29 repeaters or 14.3 per cent, largely in the first two grades. The other 178 pupils have accumulated 130 C marks, 221 B marks, and 161 A marks in the elementary grades, or about 75 per cent receive A or B. It is evident that these pupils on the whole do better work than the general average of all pupils admitted on the usual chronological basis.

For the 29 repeaters, it would have been better in many ways if they had remained at home another year. The chief objections to admitting some of the under-age children is due to their physical immaturity. They lack sustained attention, are shy, self-conscious, or under a nervous strain, according to the report of their teachers.

How can this condition be remedied? Would raising the chronological age do it? The following table shows the distribution of marks according to the chronological age of the pupils.

Distribution of Marks According to Chronological Age

Under-age Children Admitted from September, 1924, to September, 1930 Record in Grades I to VI											
Age	No. Pupils	Re-peaters	C	B	A	Per Cent A or B					
4-11	1			1	3	100					
5-0	8		10	9	2	52					
5-1	12		8	16	6	73					
5-2	11	3	6	8	5	68					
5-3	19	6	8	13	17	70					
5-4	22	3	19	14	11	56					
5-5	39	6	26	39	19	69					
5-6	25	6	7	32	26	89					
5-7	43	5	16	50	52	86					
5-8	27		30	39	20	66					
Total	207	29	130	221	161						

This table shows that of the 21 children under five years and two months chronologically none were repeaters. The younger child holds his own with the older.

Would raising the mental age help? The following table shows the distribution according to the mental age:

Marks Distributed According to Mental Age Under-age Children Admitted from September, 1924, to September, 1930 Records in Grades I to VI											
Mental Age	No. Pupils	Re-peaters	C	B	A	Per Cent A or B					
5-4	1	1									
5-4 questioned one of twins											
5-8 or 5-9	45	13	36	35	16	58					
5-10 or 5-11	44	7	30	51	28	72					
6-0 or 6-1	34	1	22	39	26	75					
6-2 or 6-3	44	3	33	51	29	71					
6-4 or 6-5	13	2	6	13	16	83					
6-6 or 6-7	8	1		8	15	100					
6-8 or 6-9	7	1	3	11	15	89					
6-10 or 6-11	6			12	8	100					
7-0 or 7-1	3			1	2	100					
7-2 or 7-3	2				7	100					
Total	207	29	130	221	161						

Twenty of the repeaters had a mental age from five years and 8 months to five years and 11 months. If the mental-age requirement was raised to 6 years, 75 per cent of the repeaters would be eliminated, but at the same time 88 pupils, or 50 per cent of all the others would be barred.

Would establishing an I.Q. help?

The following table shows the distribution according to I.Q.'s:

I.Q.	No. Pupils	Re-peaters	C	B	A	Per Cent A or B
100-105	35	9	28	30	18	63
106-110	68	10	43	82	42	74
111-115	49	6	29	50	36	74
116-120	29	3	21	21	26	69
121-125	15	1	8	30	18	85
126-130	5		1	6	6	92
131-135	3				12	100
136 over	3			2	3	100

Raising the required I.Q. to 115 would eliminate 25 repeaters or 86 per cent, but would have eliminated 127 others, or 71 per cent.

The success of the pupil, therefore, does not depend upon the chronological age, the mental age, or the intelligence quotient. The only factor left is the physical condition of the child. A requirement was made that the child should submit a physician's certificate recommending the child. This has not barred all the immature. During the past year pupils were admitted conditioned upon satisfactory work in school. A few have withdrawn after a two months' trial. In the future it is planned to further restrict the children on the basis of physical fitness before entering and after entering, depending upon the child's reaction to the school environment.

The results of this six-year experiment indicate that the use of mental tests given by competent, trained specialists is thoroughly sound as a basis for admitting many under-age pupils to the first grade, but that it must be supplemented by a rigid physical standard to eliminate the immature who lack sustained attention and are under a possible nervous strain.

THE ACTIVITY BOOKLET

R. W. Johnson, Dubuque, Iowa

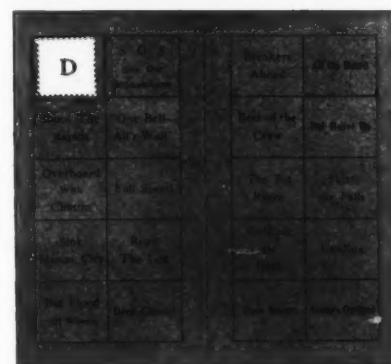
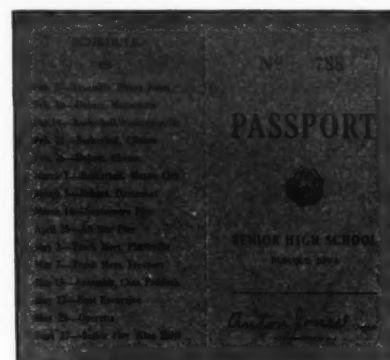
The proper financing of school activities has always been a problem to the majority of high-school principals. Some activities always have money to spend, in fact, too much, while other worth-while activities have trouble in getting enough money; for instance, debating and declamatory work. Since school administrators wish to see a well-rounded program of school activities, they endeavor to get enough money to carry each activity, but may make the mistake of trying to run each project independently. If money is taken from the activities which can spare it and given to those which are running behind, there is dissension among teachers and students directly concerned. The result is that principals are worried about maintaining a desirable activity in the program.

A few years ago different principals hit upon the plan of combining all activities into one large unit with the needs of all being budgeted through one central committee. All money from the student body went into this "activities fund" to be distributed by a committee to the different activities according to their needs.

This merger plan has been handled differently in several schools; some using the semester season ticket, some the weekly stamp plan, and some the general fund for all. Several schools are using the weekly stamp plan administered in each school according to local conditions and the judgment of the local committees.

In Dubuque we have used the weekly stamp plan for the past five years, each year being more successful than the previous one and all indications point to a successful future for it.

The activity booklet, as it is known in Dubuque, is a cardboard folder in attractive design, with twenty rectangular spaces in which the pupils place an activity stamp each week. The stamp is bought for a fee of 10 cents in the homeroom.



PASSPORT BOOKLET FORM WITH STAMP ATTACHED

The booklet is printed in one of the school colors by the school printshop, while the stamps are made up by a local printer in large lots of perforated gummed sheets, in the other school color. Each stamp measures approximately $\frac{3}{4}$ by $\frac{1}{2}$ in. to fit the spaces in the booklet. A quota of stamps, which depends on the size of the homeroom, is placed in an envelope and put in the mail box of each homeroom teacher, Wednesday evening of each week for sale the next morning. The teacher either handles the

[illegible]

FORM FOR RECORDING PUPILS' PAYMENTS

sale or delegates the work to one of the pupils. The teacher or student checks on the booklet card each time a student buys a stamp. This card is the permanent record of stamp sales kept by the teacher. The money is placed in the envelope with the unsold stamps and sent to the office.

All stamps and money are handled by the school secretary in the office. The funds are transferred to the different activities from time to time as the need arises. Transfers are made only upon order of the principal after advising with the finance committee.

The purpose of the activity booklet is to care for all activities through the budget plan, thus obtaining support for all. At the same time all activities are on a firm financial basis and all have equal standing with the students. The budget is made up after the needs of the different activities are made known by the sponsors and the incoming funds have been estimated. All funds received from customers outside of holders of activity booklets go to the activity responsible for the game, etc.

The activities placed on the card by the school are athletic contests (football, basketball, and track) plays and operettas, debates and declamatory contests, boat trips, and assemblies.

Planning for New School Buildings with Graphic Records

G. E. Irons, Cleveland, Ohio

This article discusses a special technique, developed in the course of nine years of research, to determine the location of new schools, the number of children to be provided for, the grades to be accommodated, and the boundaries of new and old school districts.

When the writer entered the employ of the Cleveland board of education in December, 1922, accurate methods for determining school-building needs were not available. There was no scientific basis of forecasting, except the experience and good sense of the responsible executives in the division of schoolhouse planning, equipment, and supplies. Even the literature on the subject was meager. A few city-school-survey reports suggested techniques which were scientific, but these could not be relied upon because they lacked the evidence of successful use and practical experience. It

By single admission, which all students pay if not carrying a booklet, the cost of these activities total approximately \$14 a year. By the stamp plan they cost the pupils but \$4, or approximately 30 per cent of the single admission price.

The advantages of this plan far outweigh the disadvantages, as experience has shown. Both advantages and disadvantages are listed below, also a few precautions necessary to the successful launching of the plan.

Advantages

Operate on the budget plan.

There is central control of all money.

There is increased school spirit.

There is both moral and financial support for all activities, for 90 per cent of our students are supporting all activities.

Installment buying, but no loss to pupil by being unable to buy a stamp.

Activities are attended by the students at approximately 30 per cent of the former cost.

Coöperation of coaches for the benefit of all and the whole school.

Small payment each week, hardly noticeable by the majority of the student body, instead of several difficult admission fees.

Weekly reminder of activities and what the students owe the school.

Disadvantages

A few students fail to "keep up" the stamps for the booklet the entire semester.

Takes a small amount of time in homerooms.

Takes approximately three hours of secretary's time per week to handle and check.

Occasionally a booklet is lost. A penalty is attached for issuing a new booklet.

Points to be stressed before initiating the booklet plan.

1. "Sell" yourself on the plan.
2. "Sell" the faculty on the idea and get them to take a booklet as an example for the students.
3. "Sell" the proposition to the students: first, on proper school spirit; second, as an economic saving; third, as reciprocity in support of all activities.
4. Perfect your organization before you start. It will then be accepted more readily.
5. Be sure everything is explained to all the students.
6. Make arrangements to account for all money to the student body and to the board of education.

schools grew unwieldy in size (one of them has 75 rooms); in others, smaller relief schools were "sandwiched" in between the older ones. Neither solution is ideal, and neither is necessary in the majority of cases if the school planning is correctly engineered in advance.

Various methods of solving the problem of locating buildings were tried out. The "pin map" was found to be a useful tool. Lot counts, house counts, school-census figures, and similar data were utilized. Population studies of public utilities were also used to check results in doubtful situations.

The particular technique which has been developed in Cleveland is not in general use to the best of my knowledge. It has proved to be so valuable that it may be of use in other communities. Briefly, it consists of a system of graphical enrollment records and a method of using them.

The Need of Forecasts

The school planner or forecaster (he may be the superintendent in a small city or an assistant department head in a large city) must provide data on a number of points of information which the board of education and the superintendent of schools require:

First, it is obvious that a school planner must be able to anticipate school enrollment for several years in advance, with a fairly high degree of accuracy.

Secondly, he must be able—at least in a larger school system like Cleveland—to answer quickly any question in reference to the housing conditions of particular schools already in operation. He must anticipate by at least a year the needs for temporary relief in the form of portable rooms which are shifted each year from locations where they are no longer needed to schools where the enrollment has outgrown the facilities.

If, in addition, he may be called upon to render various other services of an engineering nature, it is necessary that his basic data for enrollment estimates be assembled in the most concise and easily available form.

Necessity No. 1, then, is the ability to forecast enrollments. Perhaps the reader will ask, "Why base enrollment estimates for next year on enrollments alone? Could not better estimates be made by using other indices of population growth, such as telephone service, gas-meter service, or the like?" A careful study of the experience with these indices in Minneapolis indicates that they are not as safe and successful as has been supposed.¹ I can add that experience in Cleveland confirms the investigation in Minneapolis. This does not mean that a study of such indices is not worth while. It is, in fact, very valuable in some respects but not for this particular purpose.

Enrollment Records Best in Indices

Enrollment records themselves, when properly assembled and graphically recorded, give the best indications to the immediate future provided, of course, that the forecaster makes allowances for the influence of such special factors as transportation, etc., which may be expected to accelerate or decelerate the rate of growth or decline. The allowances can be based only upon experience in similar cases, and the good judgment of the forecaster meets its acid test at this point.

Of course, the enrollments must be accurately reported, or they lose much of their value for purpose of prognostication. Cleveland has been fortunate in this respect by reason of the insistence of Mr. L. C. Bain, chief of the Bureau of Child Accounting, that the monthly enrollment reports from the schools shall be main-

¹⁴"Economic Factors Related to School Population Growth," Engelhardt and Hegel. AMERICAN SCHOOL BOARD JOURNAL, May, 1928.

tained at a high standard of accuracy and regularity.

The form in which these enrollment records are assembled by the writer is graphic, and comprises the following eight graphs (each of which is brought up to date four times a year, i.e., September 30, December 1, February 28, and June 15, approximately):

1. Graph of total enrollment in the school system, all grades.
2. Graph of total enrollment in grades 10 to 12, including postgraduates.
3. Graph of total enrollment in grades 7, 8, 9, including junior-high-school special students.
4. Graph of enrollment in grades 1 to 6 only, including any special classes in these grades (border line, mental defective, "high I. Q.," over-age, sight-saving).
5. Graph of kindergarten enrollment.
6. Graph of enrollment in special schools.
7. A graph for each of 21 permanent school zones into which the city has been divided, to visualize trends in different sections. These zone graphs record enrollment in grades 1 to 6 only, including "specials" as in Graph 4 above. This eliminates the more changeable and fluctuating kindergarten group. The elementary grades constitute the only complete group of children who are in school by legal necessity; hence, their number bears a much more constant relationship to the whole population than does that of any other school group.
8. A graph for each individual school building. Each of these carries two lines; one in blue² recording grades 1 to 6 only; and one in black recording the total enrollment in the building. In the case of junior high schools, the line records grades 7, 8, and 9; in senior high schools, grades 10, 11, and 12, and in some cases grade 9 also (where this is a part of the senior-high-school organization in technical and

commercial high schools); in 6-year high schools, a green line records grades 7, 8, and 9, a red line indicates grades 10, 11, and 12, and a black² line records the total enrollment in the building.

On each of the elementary graphs (grades 1 to 6) a horizontal line in red² pencil indicates the standard pupil housing capacity of the classrooms of the building or the total of the group of buildings involved, *not* including the kindergarten capacities.

The blue line showing enrollment in grades 1 to 6 may be compared at a glance with the red capacity line to give an approximate idea as to the degree of congestion, if any, in a given building.

Above the chart in Class-8 graphs are spaces for the enrollment figures and above these appear data relative to the rooms, areas and costs of the school plant. (See Fig. 1.)

These graphs are assembled in a loose-leaf binder.

It will be seen that the June "at date" enrollments are distinguished by small solid circles around the points. This enables the observer to visualize more readily the trend of growth, using only the comparable figures for each year, and ignoring the fluctuations of intermediate points.

How the Graphs are Used

This system of graphical records was set up in 1926, including data from 1919 to 1926, and has been kept up since that time. Let us review some of the ways in which it is a tool and timesaver in answering specific questions which are commonly asked:

1. Where will "portable" rooms be needed next September?

By running through the book and comparing the blue enrollment lines (grades 1 to 6) with the red capacity lines, the trends of growth and the existing conditions are quickly grasped. Those schools which are clearly overcrowded

(or where the growth trends indicate probable overcrowding) are noted and individual investigations made.

2. What is the enrollment doing in "Blank" school? (A frequent question.)

Turn to the graphs of "Blank" school, and its record is self-explanatory. (See Fig. 1 again as an example.)

3. Where are boundary changes indicated?

About the same procedure as in Question 1 will fix attention on the outstanding needs. One does not need to trust to memory of the conditions in over one hundred elementary-school districts, nor to wait upon last-minute requests for help from the school principals.

4. What will be the enrollments of each school next September? (A question asked in connection with the annual supply budget.)

Extend the graph of each school in accordance with the indicated trends, making any special allowances necessary. Compare the total of the enrollments thus shown with the figure indicated by extending the graph of *total enrollment* in grades 1 to 6. Adjust the individual predictions, if necessary, so that the total is consistent with the graphical indication of the extended "total-enrollment" curve.

If very accurate results are desired, the procedure may be reversed and elaborated; i.e., the *total* curve is first extended to September; then the "zone" graphs are extended and adjusted until the total of the September indications equals the figure of the "total" curve. Then the schools in each of the various zones are adjusted to agree in total with the prediction of the zone graphs.

This method is similar, on a smaller scale, to that employed by the Bell Telephone companies in their nation-wide surveys and predictions.

The underlying principle is this: The larger the group considered, the more nearly does its growth or decline follow definite mathematical laws, as is evidenced by the smoother graphs of the larger group. The fluctuations to be observed in small units tend to cancel each other as they are combined to make up larger units.

5. The planning of the building program is much helped by such procedure as that just outlined. A consideration of the "zone" graphs makes clear to the investigator just where the next building operations will probably be needed. These records are also invaluable in preparing the detailed reports and recommendations which must be a part of any thorough-going building program. The preparation of a building program is another story, however, and irrelevant to the theme of this paper.

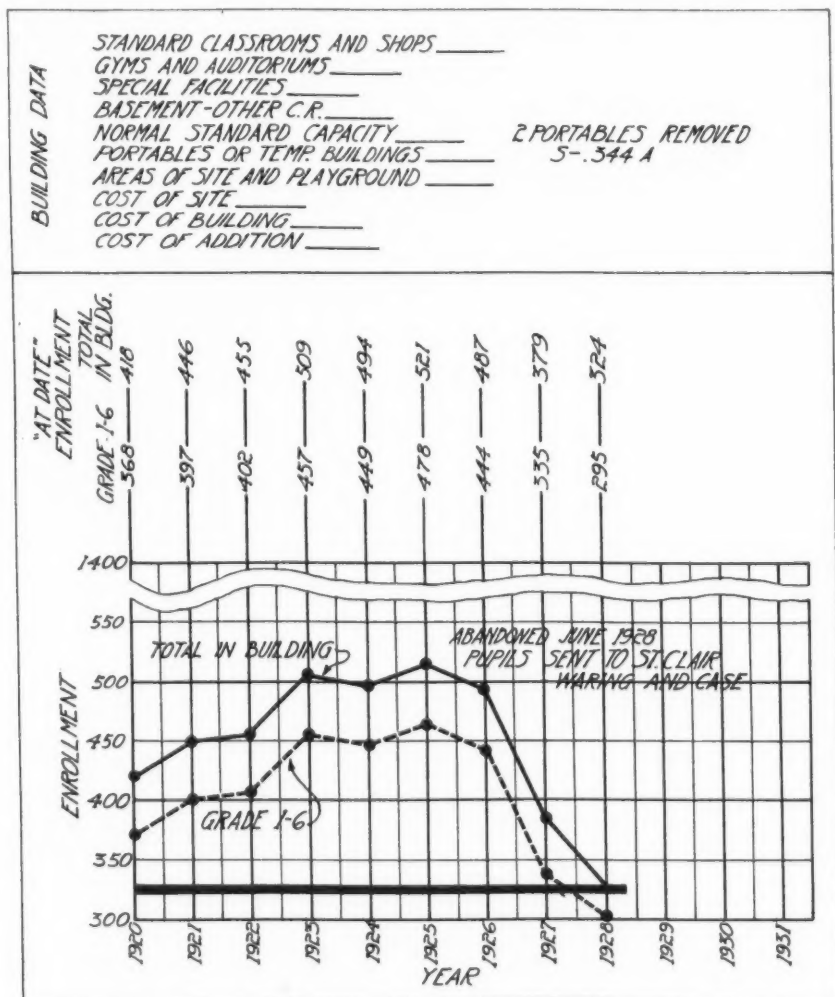
Techniques for High Schools

So far, this technique has been found most useful in connection with *elementary-school* housing; because the capacities of elementary schools are more easily fixed than are those of junior or senior high schools. Then, too, there are relatively few of the upper-grade schools, and their districts are not so rigidly limited in size, because the pupils are older and can ride on street cars, if necessary. Planning for new high schools involves very detailed and comprehensive special investigations, and no two of these are alike. Nevertheless, the graphical records of the enrollments in the upper grades are very often useful, particularly if one wishes to review the "life history" of a high school as expressed in its enrollment, or to compare the rates of growth of various schools.

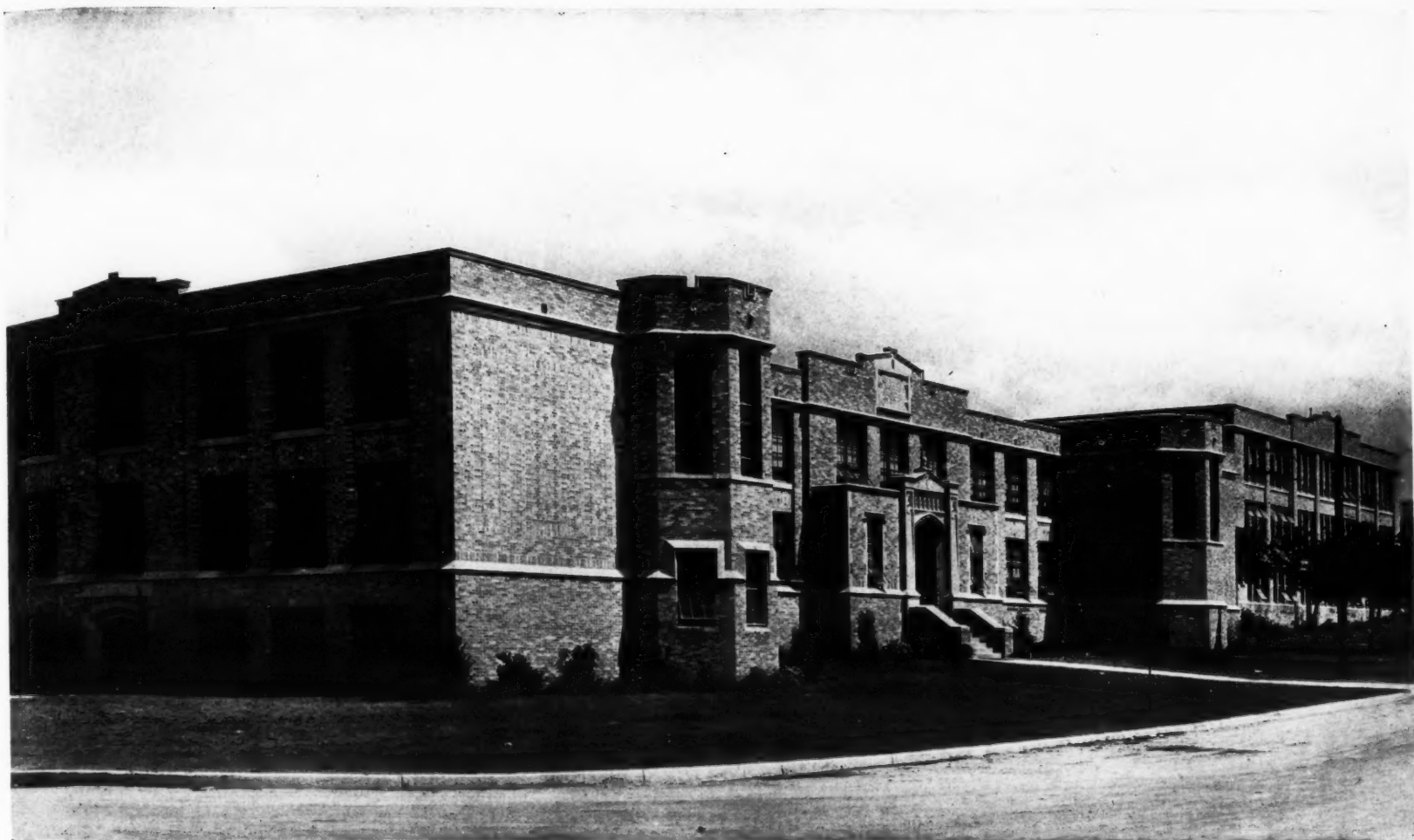
The routine labor of keeping the records just described is not considerable in any community where ample enrollment records are available. In Cleveland, it is handled by a dependable clerk-stenographer. By its aid the head of the school planning from the educational stand-

(Concluded on Page 108)

²In Fig. 1 the black line is indicated by a solid line; the red line, by a heavy solid line; the blue line, by a dotted line.



ELEMENTS OF GRAPH FOR RECORDING SCHOOL ENROLLMENTS
The original is printed and ruled in colors to allow for additional years and greater enrollment.



EXTERIOR OF ALAMO HEIGHTS ELEMENTARY SCHOOL, SHOWING WING OF JUNIOR HIGH SCHOOL SAN ANTONIO, TEXAS
Harvey P. Smith, Architect, San Antonio, Texas

Realizing All the Advantages of Grouped Schools

How Alamo Heights, Texas, Has Combined Efficiency with Economy

The city of Alamo Heights, Texas, has developed a community school plant which affords, in separate but closely connected units, a complete city school system from the kindergarten through the senior high school. Of the three buildings, the high school is an older structure erected a number of years ago and still adequate for the high-school enrollment. The new units are a junior high school which has been so planned that it includes a cafeteria, an assembly hall, and a gymnasium adequate for the three divisions of the school service — the junior high school itself, the senior high school, and, to a limited extent, the elementary school. A glance at the plot plan will indicate the advantageous location of the junior high school, with its arcaded open corridors, connecting it to the elementary and the senior high schools.

The general design of the junior high school and of the elementary school is a very much modified Gothic, which corresponds with the general design of the old high school. The build-

ings are constructed entirely of reinforced concrete frame, with brick and hollow-tile walls. The sash throughout are steel, the surface floors are composition except for the ramps which are covered with cork. The walls and ceilings are plastered. The toilet rooms have tile floors and plastered walls and ceilings, and the stage of the junior-high-school auditorium which serves as gymnasium, has a maple floor suitable for play and gymnastic purposes.

The three buildings are heated by means of a low-pressure steam plant, located immediately back of the junior-high-school building.

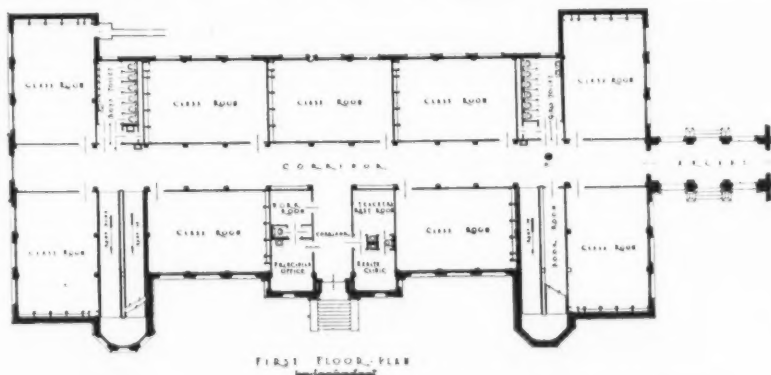
For reasons of increased safety, ramps have been built into the buildings in place of the ordinary stairways.

The Junior High School

The junior high school was erected during the summer and fall of 1928 and was completed and occupied in February, 1929. The building is in the plan of an inverted "Y" — an inevitable arrangement due to the corner location and the

necessity of connecting the building with the senior high school and the elementary school.

The basement contains a large cafeteria, with an adjoining kitchen and a separate dining room for the teaching staff. On the same floor one wing is not excavated, but the other wing which is well above the grade, contains the home-economics department with its unit kitchens in the food laboratory. A space entirely cut off from the balance of the floor is occupied by the boys' locker and shower rooms.



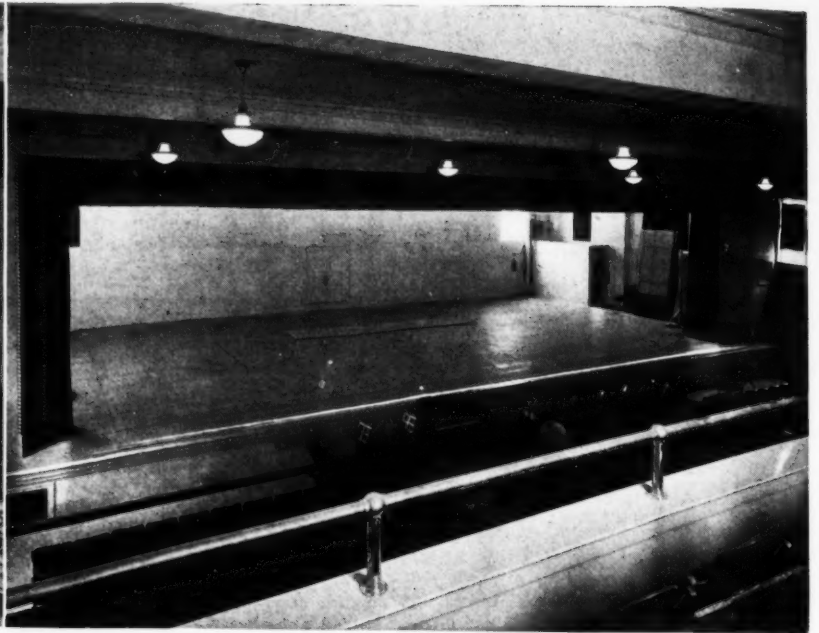
FIRST FLOOR PLAN OF THE ALAMO HEIGHTS ELEMENTARY SCHOOL
Harvey P. Smith, Architect, San Antonio, Texas



ARCADE CONNECTING JUNIOR HIGH AND ELEMENTARY SCHOOLS, ALAMO HEIGHTS SCHOOLS, SAN ANTONIO, TEXAS

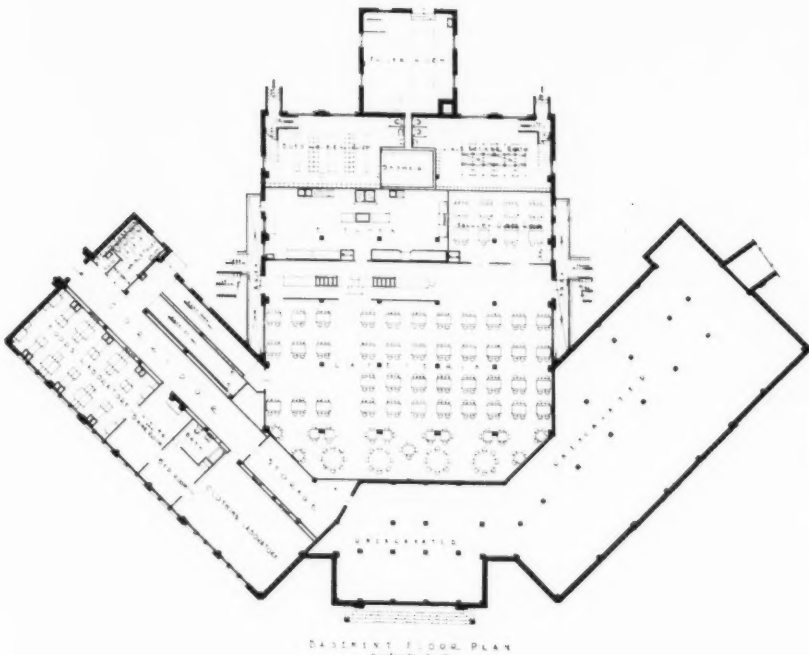


Interior Foyer

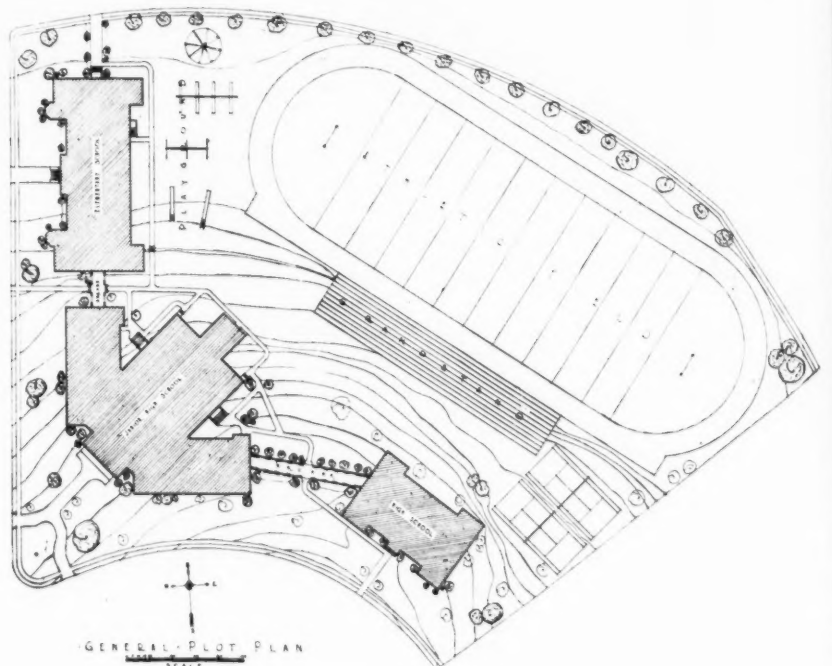


Combination Stage and Gymnasium

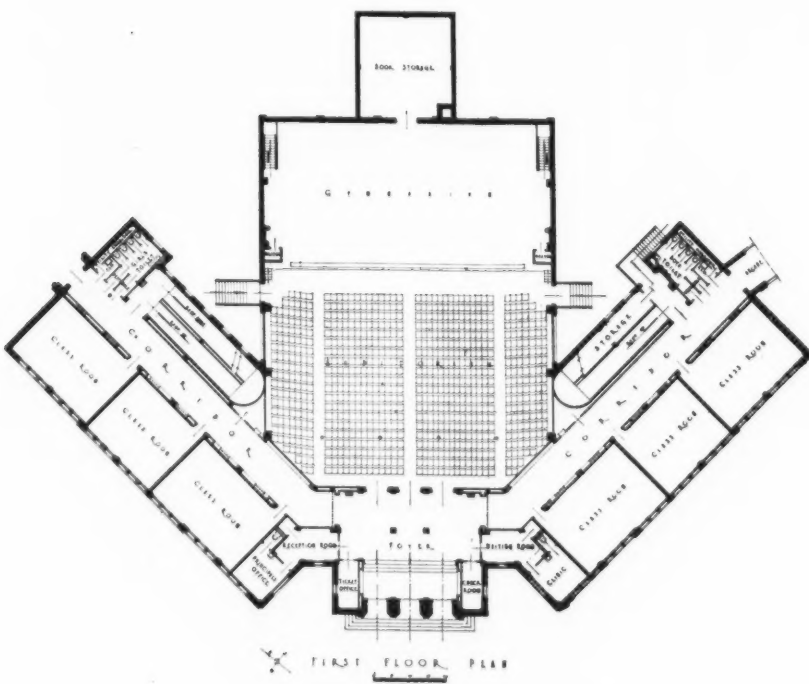
INTERIOR VIEWS OF THE ALAMO HEIGHTS JUNIOR HIGH SCHOOL, SAN ANTONIO, TEXAS
Harvey P. Smith, Architect, San Antonio, Texas



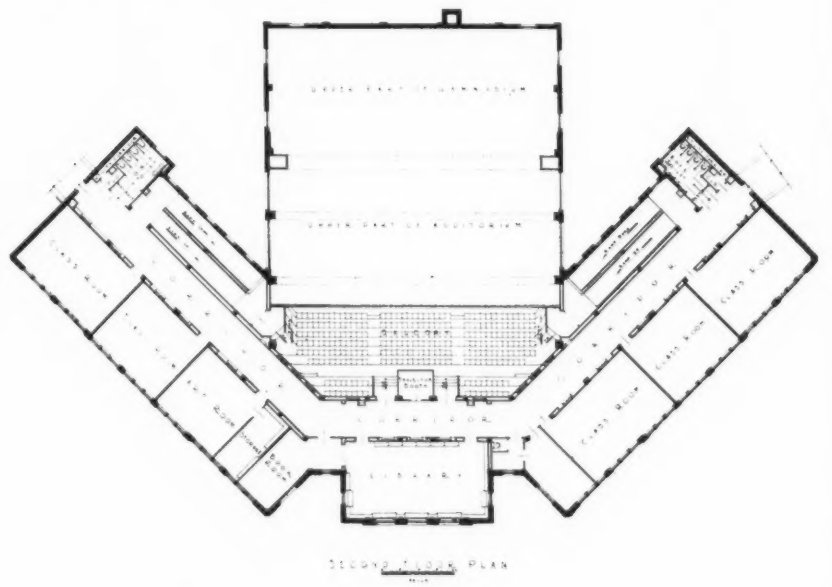
ALAMO HEIGHTS JUNIOR HIGH SCHOOL, SAN ANTONIO, TEXAS



PLOT PLAN, ALAMO HEIGHTS SCHOOL GROUP, SAN ANTONIO, TEXAS



ALAMO HEIGHTS JUNIOR HIGH SCHOOL, SAN ANTONIO, TEXAS
Harvey P. Smith, Architect, San Antonio, Texas

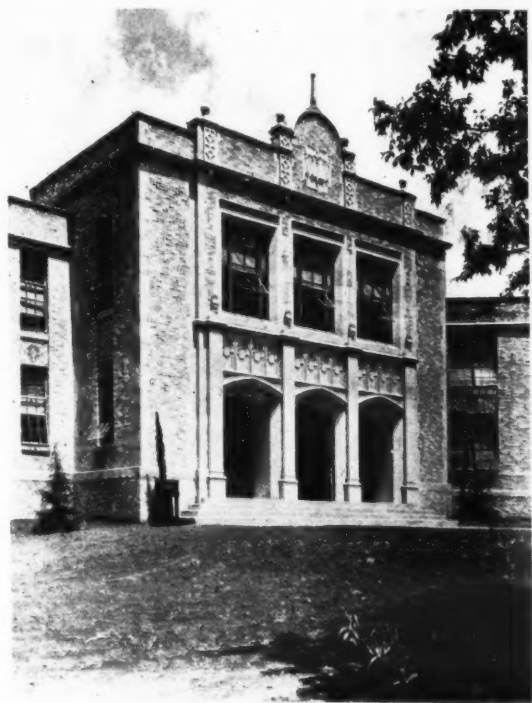


On the first floor there are six standard classrooms, an office for the principal, a health clinic, and two toilets. The auditorium which is entered from the main foyer can be shut off entirely from the balance of the building by iron gates. This room measures 59 by 80 ft., and has a total seating capacity of 1,100. The stage which measures 42 by 80 ft., can be cut off from the auditorium by means of huge folding doors, in front of which a velour curtain is dropped. The arrangement is as nearly soundproof as possible.

On the second floor there are five classrooms, an art room, a teachers' room, and a library with bookroom adjoining.

The Grade School

The elementary school which was erected in 90 working days during the summer of 1928, measures 165 ft. along the street front and is 72½ ft. deep. It contains in the basement a large room for play and general activities. On the first and second floors there are nineteen classrooms and two laboratories. A principal's office, a teachers' restroom, a health clinic, and

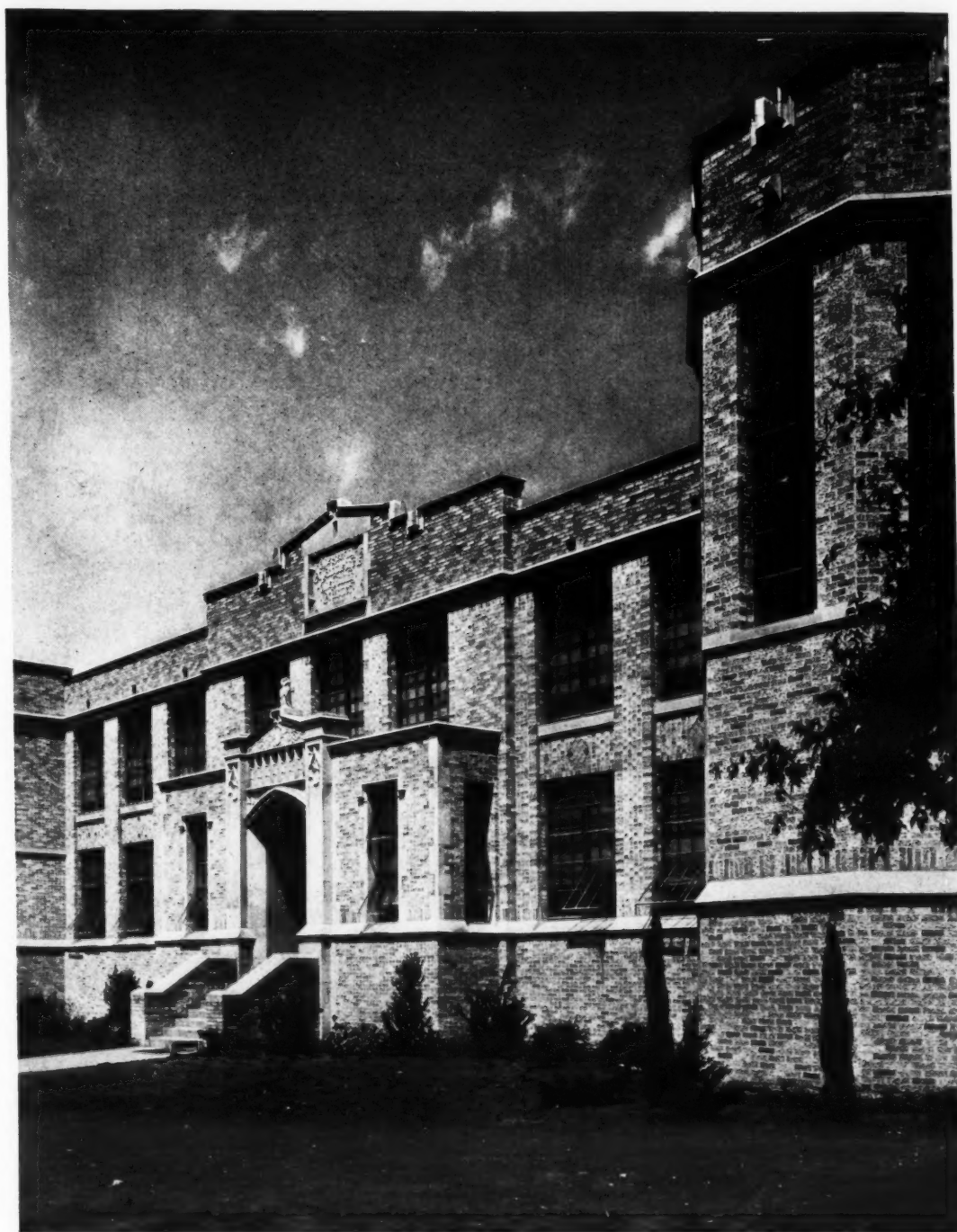


MAIN ENTRANCE TO ALAMO HEIGHTS JUNIOR HIGH SCHOOL, SAN ANTONIO, TEXAS
Harvey P. Smith, Architect, San Antonio, Texas

a bookroom adjoin the main entrance. Toilets are located on each of the two floors.

The Cost

The junior high school which has a pupil capacity of 400 on the basis of the present organization, cost \$182,163.72. The cost per



FRONT ENTRANCE, ALAMO HEIGHTS ELEMENTARY SCHOOL, SAN ANTONIO, TEXAS
Harvey P. Smith, Architect, San Antonio, Texas

pupil is undoubtedly high, because the school has extraordinarily large gymnasium and auditorium facilities which serve three schools. The elementary school has a seating capacity of 700 for the conventional type of organization, and cost \$96,652. Both buildings cost 28.52 cents per cubic foot.

A Summary of Published Opinion on School Ventilation

Part III. Annotated Bibliography on Schoolroom Ventilation

V. T. Smith, Bureau of Educational Research, University of Illinois

1. Alt, Harold L., "Pros and Cons of School Ventilation," *AMERICAN SCHOOL BOARD JOURNAL*, 74:63-64, 49-50; January, February, 1927.

In these articles Mr. Alt traces the evolution of ventilation systems with very helpful sketches of the various types and suggestions as to the advantages and faults of each. This is one of the most valuable of this list of references.

Concerning the "experiments" made to test the effects of ventilation on children, Mr. Alt calls attention to the fact that the child is in school only 5 of the 24 hours.

2. American Society of Heating and Ventilation Engineers. "The Big Issue in Schoolhouse Ventilation," *AMERICAN SCHOOL BOARD JOURNAL*, 74:61-62, March, 1927.

This article is a digest of addresses delivered at the convention of the American Society of Heating and Ventilating Engineers. The extracts taken from the address of E. S. Hallet, Chief Engineer of the St. Louis, Missouri Board of Education were of especial interest.

3. Bobbitt, Franklin (editorial), "Experiments with Regard to Ventilation," *Elementary School Journal*, 29:93-95, October, 1928.

This is a reference to the previous investigations of the New York State Commission on Ventilation and a quotation from the *New York Sun* concerning the further program of investigation of the comparative merits of window versus mechanical ventilation, and also of 15 C.F.M. as compared with 30 C.F.M. The study is being made in Public Schools 104 and 116, Manhattan. The univent is to be used as the mechan-

ical system. Age, grade, health, I.Q., and home environment are to be considered in order to limit the results to the factors under consideration as far as possible. The article states that the commission is made up of members who have different views on ventilation and the experiment is to determine which is correct.

4. Bryce, Peter H., "The Impasse in the School Ventilation Situation," *The Heating and Ventilating Magazine*, 25:91-2, January, 1928.

This is an excellent discussion of the lack of validity of school records of respiratory illness as a criterion for the efficacy of any ventilation system. He shows that the attendance in three Canadian schools varied from 89.6 per cent to 97.7 per cent, the absence varying from less than 3.9 per cent to 10.4 per cent, in schools where there was only window ventilation (if any). He proposes an experiment in similar schools, in similar neighborhoods, with similar children, from similar homes as a means of checking the findings of the New York Commission at Syracuse.

5. Bryce, Peter H., "Symposium on Schoolroom Ventilation," *Heating and Ventilating*, 25:84-6, December, 1928.

In this article Dr. Bryce reports the investigations of CO. in the streets of Chicago. It rose as high as 1-10,000 in the loop. "The poisonous effects of 1-10,000 on children continuously exposed would be very serious."

F. C. Houghton, Director of the Research Laboratory of A.S.H.V.E. at Pittsburgh stated that *effective temperature* is the most important constant in relation to respiratory diseases.

Leonard Greenburg stated that the amount of disease in mechanically ventilated rooms was notably greater than window ventilated in New Haven.

Concerning the Syracuse study it is pointed out that though present at school the Italian children had 5 times as much respiratory illness. Also the fan-venti-

lated schools tested were not in any case modern. It is urged by Professor Willard (president of A.S.H.V.E.) that the window ventilation must be made automatic.

6. Buice, W. A., "Revolutionary Changes in Scientific Ventilation of School Buildings," *The Texas Outlook*, 10:48, October, 1926.

This article contains typical unwarranted inferences which some writers have drawn from the findings of the New York Commission on Ventilation. Like some other articles listed in this bibliography, this discussion is given to generalizing purpose of discovering qualifying situations and contradictory exceptions. For example, he says:

"As a result of the work of this New York Commission, the fan systems of ventilation for schoolrooms seating fewer than one hundred pupils will be junked."

7. Burnam, W. H., "The Optimum Humidity for Mental Work," *Pedagogical Seminary*, 26:310-23, December, 1919.

This is an excellent review of the investigations concerning the effects of humidity on physical and mental activity. He says that the human body eliminates heat by perspiration and by breathing and that in both cases humidity is important. He states that in spite of limited experimental evidence "it seems clear that an optimum humidity is an important condition of efficient brain activity." He recommends 45-65 per cent r.h.

8. Burnam, W. H., "The Optimum Temperature for Mental Work," *Pedagogical Seminary*, 24:69, March, 1917.

This is a review and summary of investigations of the effect of air temperature on the physical and mental conditions of persons. His conclusion is that the temperature is an important factor in mental effectiveness. The body temperature varies rhythmically during the day. There is an optimum temperature for all kinds of activity. This is 60 deg. F. (outdoor) for physical and 40 deg. for mental activity. Too great a change tends to make the organism susceptible to infection. Therefore 68-deg. temperature and 50 per cent r.h. is recommended for schools.

9. Butsch, Russell L. C., "A Comparative Study of the Effects of Different Types of School Ventilation on the Health of Pupils," *The Elementary School Journal*, 30:16-27; 123-32; 208-17; September, October, November, 1929.

These articles report studies of the effect of window and mechanical ventilation on health carried on in 1927-28 in Oak Park, Forest Park, and Maywood, Ill. The conclusions are:

1. Greater percentage of absence in mechanical (respiratory).

2. Window gravity system most desirable.

3. Differences statistically significant.

4. Of mechanical systems, the split type with the air introduced through several openings (on one long narrow) was found most desirable.

Respiratory illness was defined as referring to illness of the respiratory system.

Respiratory illness is significantly related to age and grade but these factors were controlled in the experiment. The same is true for nationality. Sex and occupational status seemed to be of little significance. The conclusion is that there was not enough difference in the two rooms to affect amount of respiratory illness.

The conclusion is given in the third article that there is no significant relation between the temperature, humidity, air flow, or cooling effect of the air in a room and the amount of respiratory absence due to respiratory illness.

10. Cattell, J. McKeen (editorial), "School Ventilation," *School and Society*, 20:154-56, August 21, 1924.

This is a brief discussion of Dr. Winslow's report concerning the first investigations of the New York Commission contrary to the usual interpretation of the first findings of the Commission. Dr. Winslow says: "For the ordinary schoolroom for the use of normal children with ordinary indoor clothing window ventilation alone will rarely prove adequate." Dr. Winslow states that the window-ventilated room will always be comfortable at 2 or 3 degrees cooler than the fan-ventilated room. It is this temperature difference which Dr. Winslow holds responsible for greater respiratory sickness.

There is in this article also a list of the 6 experts of the committee.

11. Cattell, J. McKeen (editorial), "Ventilation of Schoolrooms," *School and Society*, 29:443-4, January, 1929.

This quotation from the *Journal of the American Medical Association*, is to the effect that the Syracuse experiment "amply confirmed" the "conclusion of the 1923 report." (As a matter of fact, there was no definite conclusion in 1923 and certainly the Syracuse "experiment" lacked a good deal of proving the superiority of window ventilation.)

12. Challman, S. A., "Corridor Ventilation," *AMERICAN SCHOOL BOARD JOURNAL*, 76:45-6, January, 1928.

This article is a plea in favor of the use of the corridors instead of outlet ducts for getting rid of used

air from the classrooms. The idea is to have grilles in the doors from classrooms into the halls and the used air will go into the halls and up the stair wells to openings through the attic. The writer meets a number of serious objections to the system.

13. Clapp, F. L., et al., "School Site and Building," *Introduction to Education*, p. 398-408.

The authors state that "the general practice in the United States and the tendency in present day opinion . . ." are indicated in excerpts which he quotes from McClure's *Ventilation of School Buildings*.

14. Dempsey, A. H., "School House Ventilation," *Journal of Education*, 107:411-12, April 21, 1928.

Mr. Dempsey, who was state commissioner of Vermont, in this article gives a rather general discussion of the subject. He says: "Fresh air is profitable, and foul air is expensive. When neither teacher nor pupil can work efficiently, and comfortably, nobody gets full value for the money expended, and for the children the loss is permanent." He then gives suggestions for a simple system of ventilation, evidently intended for one-room rural schools.

(To Be Continued in September)

THE KRIEGER SCHOOL, POUGHKEEPSIE, NEW YORK

(See Illustrations on Page 54)

The George W. Krieger School at Poughkeepsie, New York, was designed by Mr. Charles J. Cooke, architect, Poughkeepsie, to serve the needs of a local district for the first six years of schoolwork. The building is the last unit in an elementary school-building program which was begun in 1924 and completed in 1930 with a total outlay of nearly \$2,000,000.

The building contains 19 classrooms, a library and reading room, an office suite, a room for medical inspection, a teachers' room. One of the standard classrooms is used for sewing and another room is occupied as a shop.

The library and assembly room are so placed that they may be entered from one of the side entrances and may be used without opening the rest of the building. The library contains a branch of the public library and is used by the adult population. The assembly room is used for community and club gatherings. It is equipped with movable seating for 760 persons.

The building is entirely fireproof in construction and cost \$265,000 for construction and \$20,000 for equipment. On the cubic-foot basis, the cost was 32 cents.



KINDERGARTEN, THE ANNA B. LACEY SCHOOL, HAMILTON COUNTY, TENNESSEE
William Crutchfield, Architect, Chattanooga, Tennessee

Construction Details

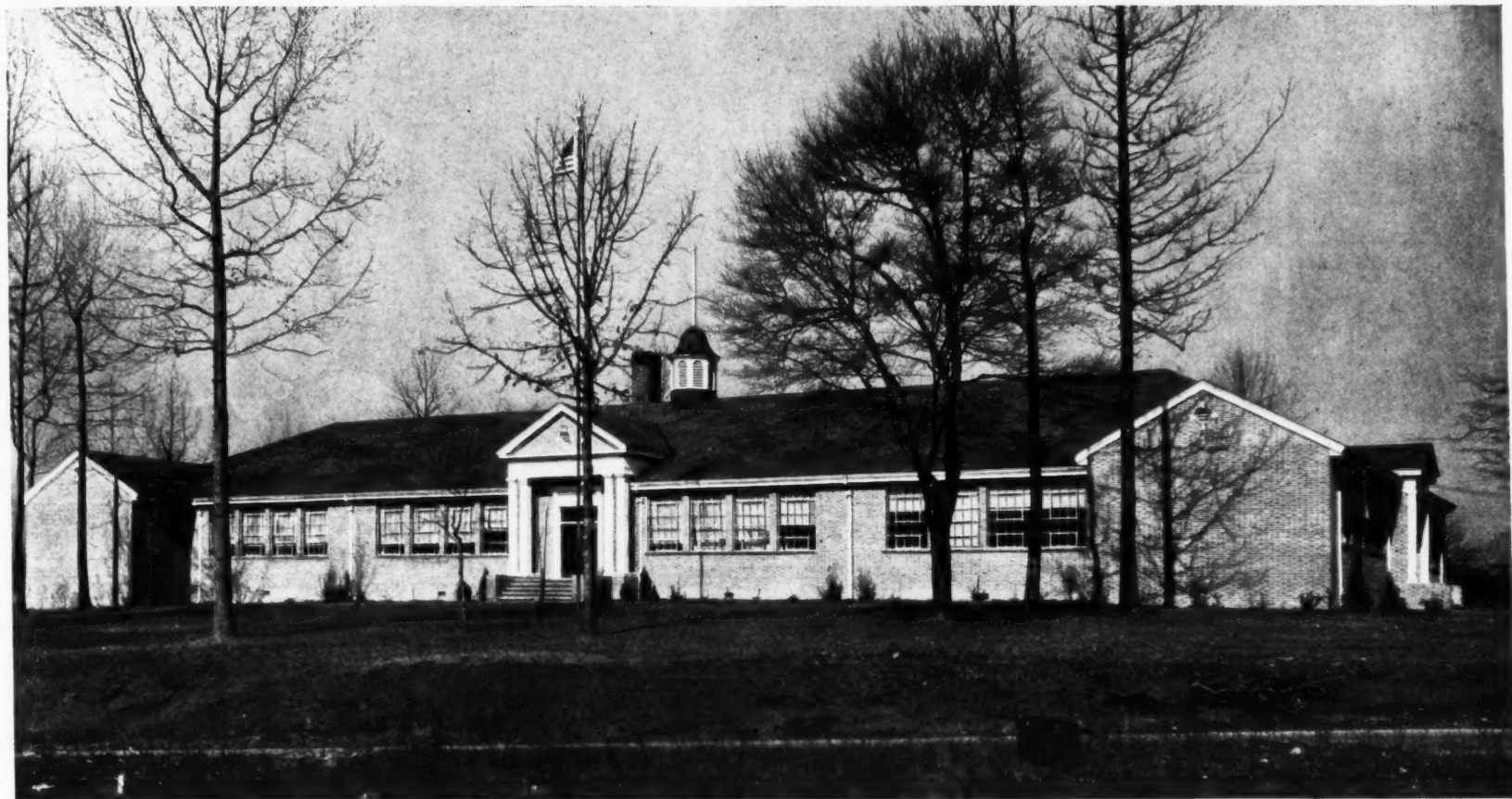
Construction begun.....	March, 1929
Building occupied.....	April, 1930
Auditorium.....	67 by 70 ft.
Exterior.....	Brick and stone
Exterior trim.....	Limestone
Construction.....	Bar-joist concrete slab, concrete and gypsum block
Stairs.....	Iron with terrazzo treads
Classroom finish.....	Plaster with chestnut trim
Auditorium finish.....	Plaster with chestnut trim
Toilets.....	Terrazzo floors, Keene cement walls
Heating system.....	Vacuum vapor with oil burners
Automatic temperature control. Complete electrical equipment for vacuum cleaning, lighting, and ventilation units.	
Ventilation.....	Unit ventilators
Pupil capacity.....	760
Cost of building.....	\$265,000
Cost of equipment.....	\$ 20,000
Cost per cubic foot.....	32 Cents

BEAUTY AND EDUCATIONAL EFFICIENCY IN A CONSOLIDATED SCHOOL

Anna B. Lacey School, Hamilton County, Tenn.

The notable progress which has been made in rural-school architecture during the past decade, is best exemplified in the South where state and sectional leadership have made it exceedingly difficult for local school boards and architects to design and erect any but architecturally and educationally satisfactory school buildings. Southern school authorities and schoolhouse designers have frankly faced the necessity of utmost economy in construction and equipment; they have further coped with the problem of convincing communities and entire states of the need for better and larger school structures; and they have understood the use of local building materials to give expression to the educational uses of school buildings, usually in familiar but always beautiful, colonial precedents.

Hamilton county, Tennessee, of which Chattanooga is the seat of government, engaged during 1929, 1930, and 1931 in a million-dollar school-building program. The major undertakings were a series of senior and junior high schools and consolidated elementary schools

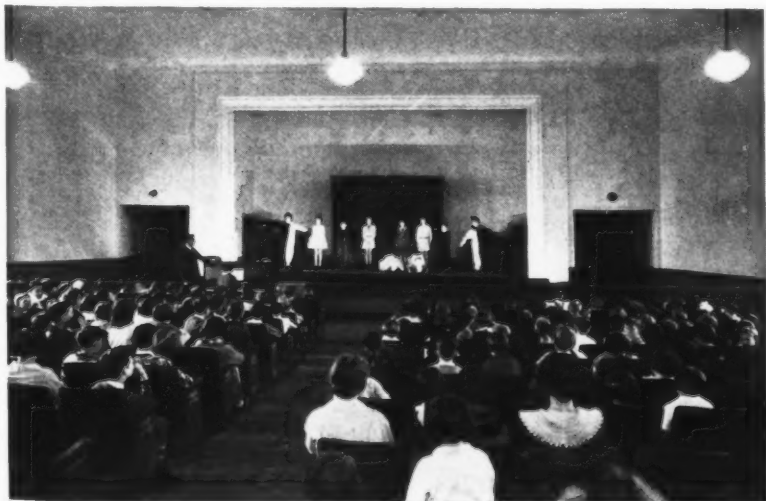


THE ANNA B. LACEY SCHOOL, HAMILTON COUNTY, TENNESSEE
William Crutchfield, Architect, Chattanooga, Tennessee

located at carefully selected centers of population. A number of additions to existing buildings have been erected. The entire purpose has been to give the entire county well-located school plants that will equalize educational opportunity as between village and country and locality and locality.

Typical of the entire program is the Anna B. Lacey School, erected and occupied in 1930, on the McBrien Road, outside of Chattanooga. The building occupies a wooded site measuring 900 by 400 feet, located on two important highways. At present the building contains eight classrooms, a library, an auditorium measuring 36 by 52 feet, a cafeteria, a kitchen, offices, a nurse's room, a girls' restroom, and a teachers' restroom. Ultimately the building is to contain eighteen classrooms, shops, etc.

The design is rather simple colonial, developed in tapestry brick and stone. The interior partitions and roofs are frame. The corridor and toilet floors are of terrazzo; the classrooms and auditorium floors are wood; the walls and ceilings are plastered. The building is heated by a low-pressure steam boiler located in a fire-proof basement. An automatically operated water supply and a sewage-disposal system are important parts of the sanitary equipment.



AUDITORIUM, THE ANNA B. LACEY SCHOOL, HAMILTON COUNTY, TENNESSEE
William Crutchfield, Architect, Chattanooga, Tennessee

Lights, a bell system, and electrically operated water pumps are included in the electric system.

The building cost \$49,431 for construction and built-in equipment; general equipment and furniture cost \$2,987; and grading and drainage, \$1,575. On the cubic-foot basis, the cost was 16 cents; on the pupil-capacity basis (320 seats) the cost was \$169. A check of the building according to the Strayer-Engelhardt score card for elementary schools provides the following:

Strayer-Engelhardt Analysis of Lacey School

Site	Lacey School	Possible Maximum
Location of Site.....	55	55
Drainage of Site.....	30	30
Size and Form of Site.....	40	40
Building		
Placement of Building.....	58	60
Gross Structure.....	58	60
Internal Structure.....	80	80

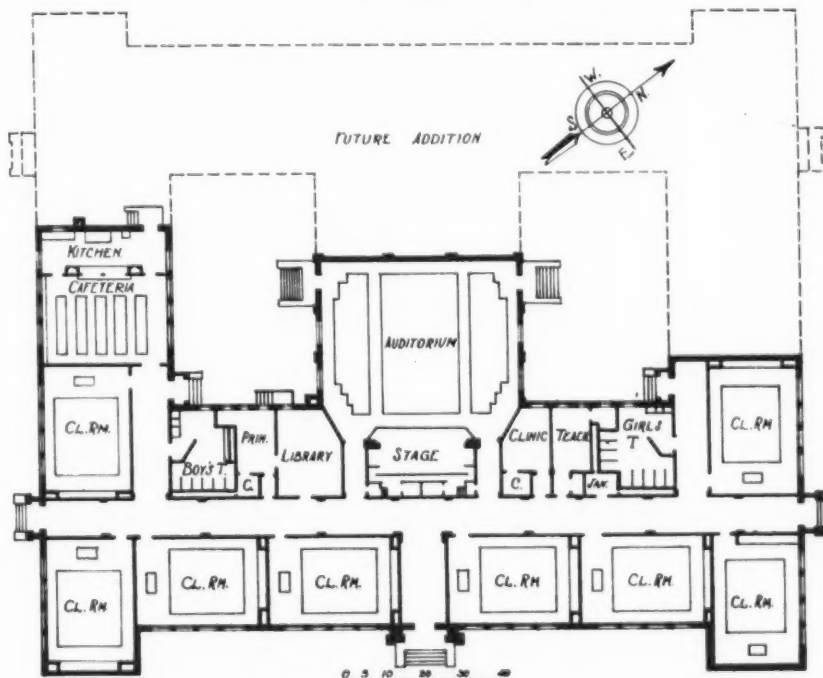
Service System Heating and Ventilation	55	80
Fire Protection System.....	45	65
Cleaning System	7	20
Artificial Lighting.....	20	20
Signal Communication System....	5	15
Water Supply	22	30
Toilets	50	50

Classrooms		
Location and Connection.....	35	35
Construction and Finish.....	95	95
Illumination	85	85
Cloakrooms	25	25
Equipment of Classrooms.....	50	50

Special Rooms		
Large Rooms for General Use.....	35	65
Rooms for School Officers.....	35	35
Special Service Rooms.....	40	40

Total 892 1000

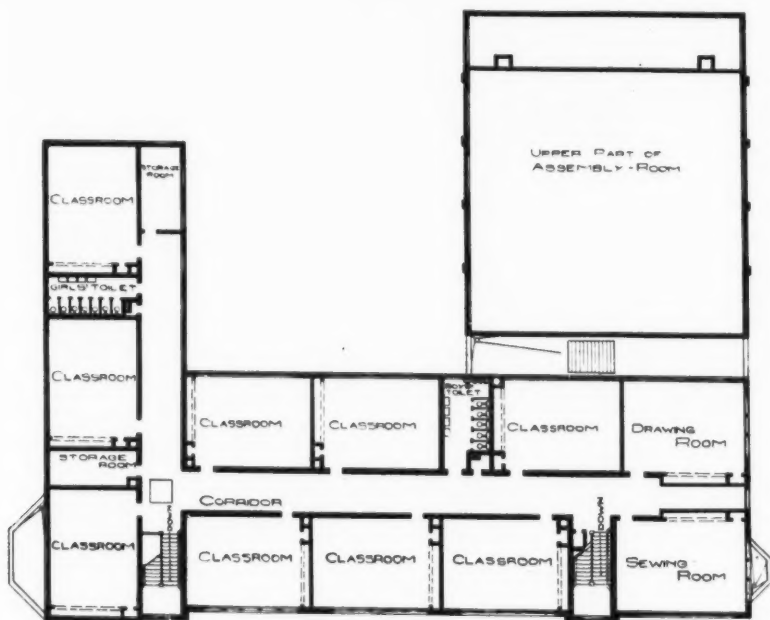
The building is named after Mrs. Harry R. Lacey who, as chairman of the county board of education, has been active in promoting the entire school-building program.



THE ANNA B. LACEY SCHOOL, HAMILTON COUNTY, TENNESSEE
William Crutchfield, Architect, Chattanooga, Tennessee



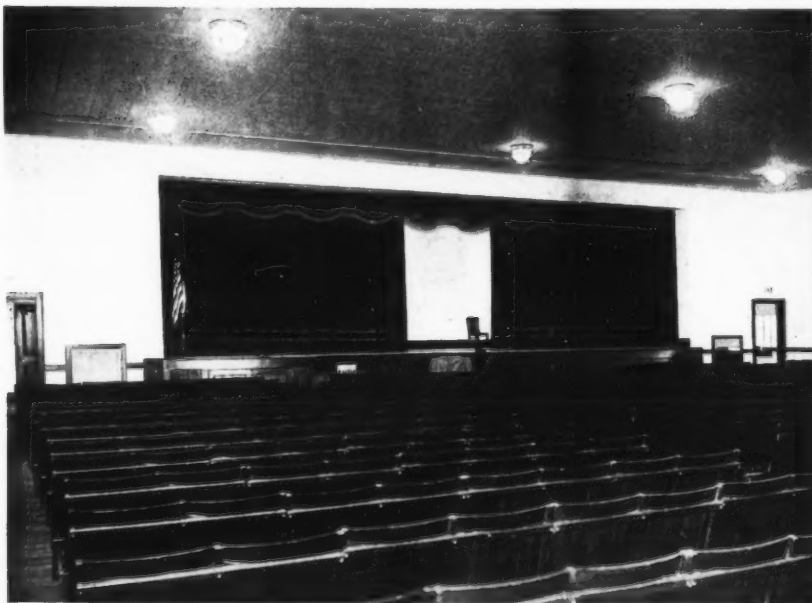
THE GEORGE W. KRIEGER SCHOOL, POUGHKEEPSIE, NEW YORK
Charles J. Cooke, Architect, Poughkeepsie, New York (See Page 52)



SECOND FLOOR PLAN



FIRST FLOOR PLAN

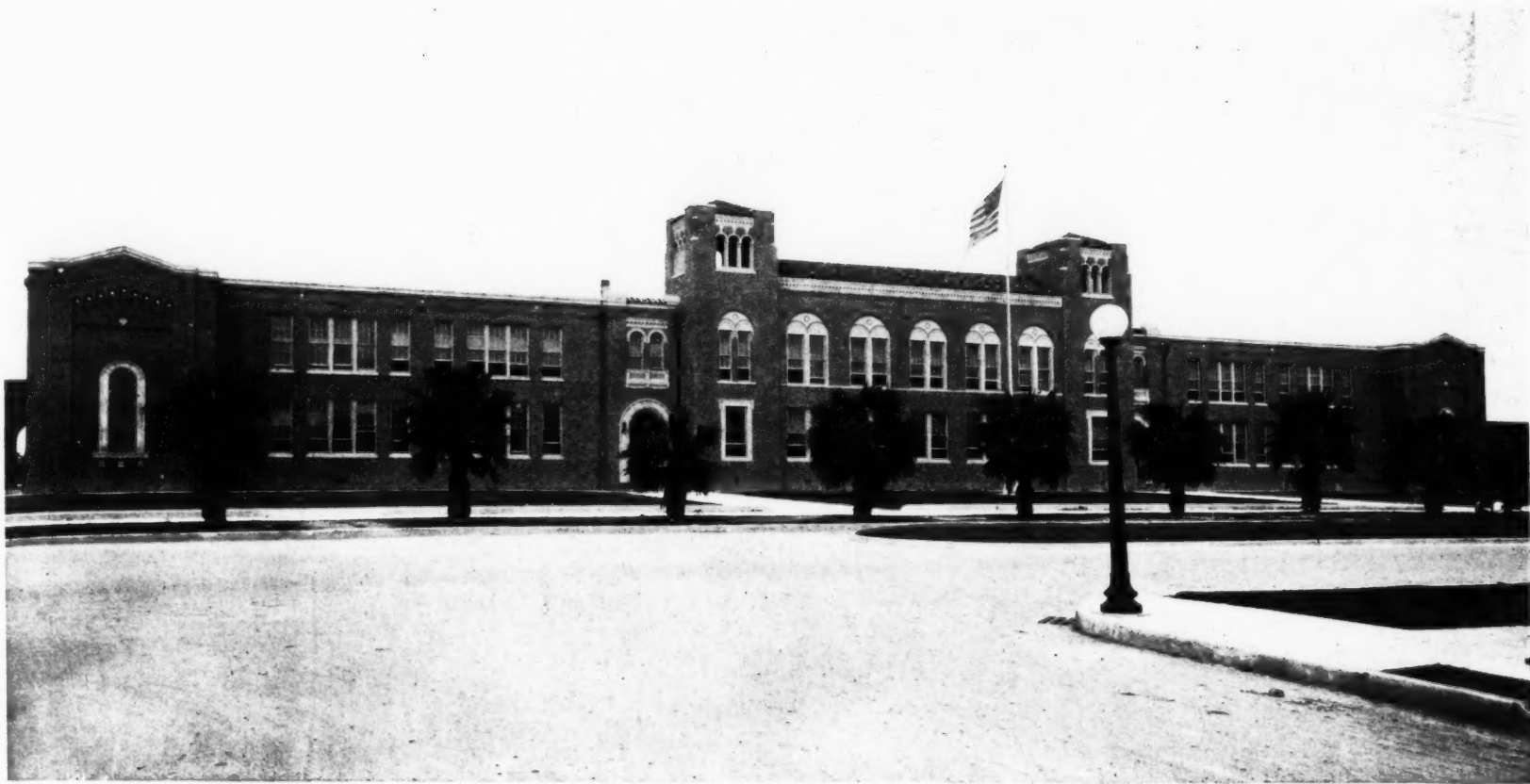


AUDITORIUM

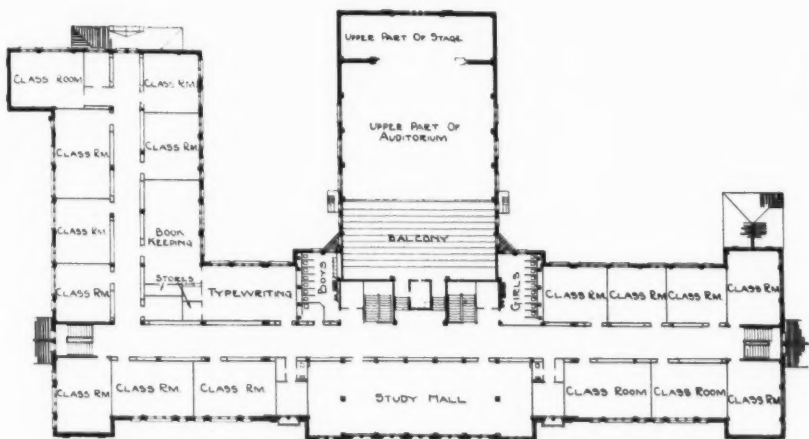


A TYPICAL CLASSROOM

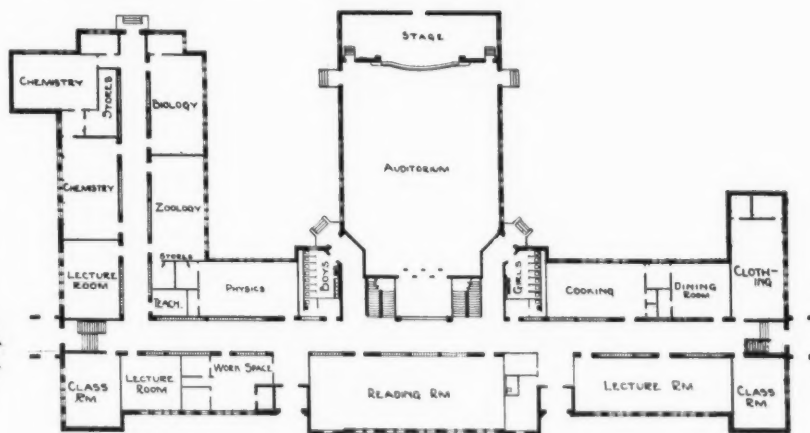
INTERIOR VIEWS OF THE GEORGE W. KRIEGER SCHOOL, POUGHKEEPSIE, NEW YORK
Charles J. Cooke, Architect, Poughkeepsie, New York (See Page 52)



BROWNSVILLE JUNIOR COLLEGE HIGH SCHOOL, BROWNSVILLE, TEXAS



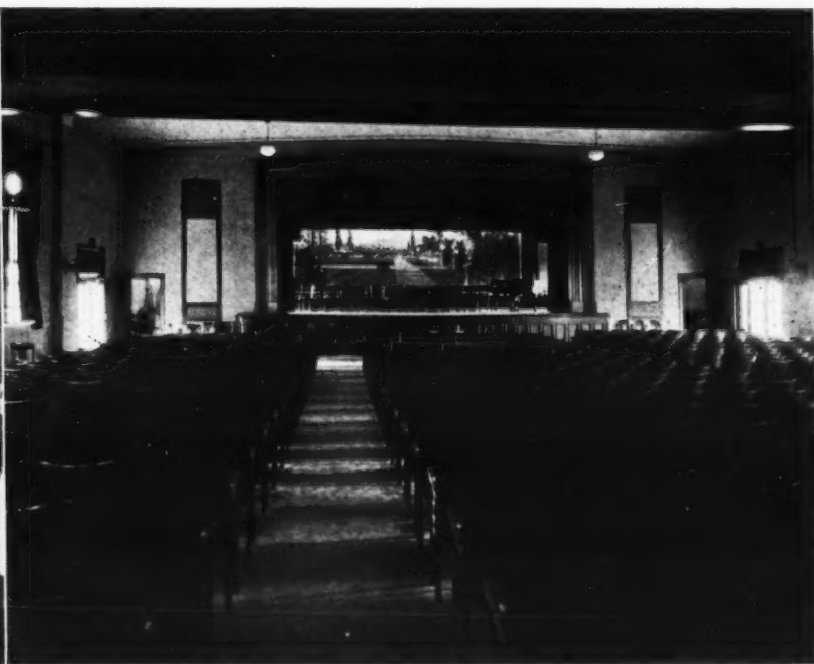
SECOND FLOOR PLAN, BROWNSVILLE JUNIOR COLLEGE HIGH SCHOOL, BROWNSVILLE, TEXAS



FIRST FLOOR PLAN, BROWNSVILLE JUNIOR COLLEGE HIGH SCHOOL, BROWNSVILLE, TEXAS



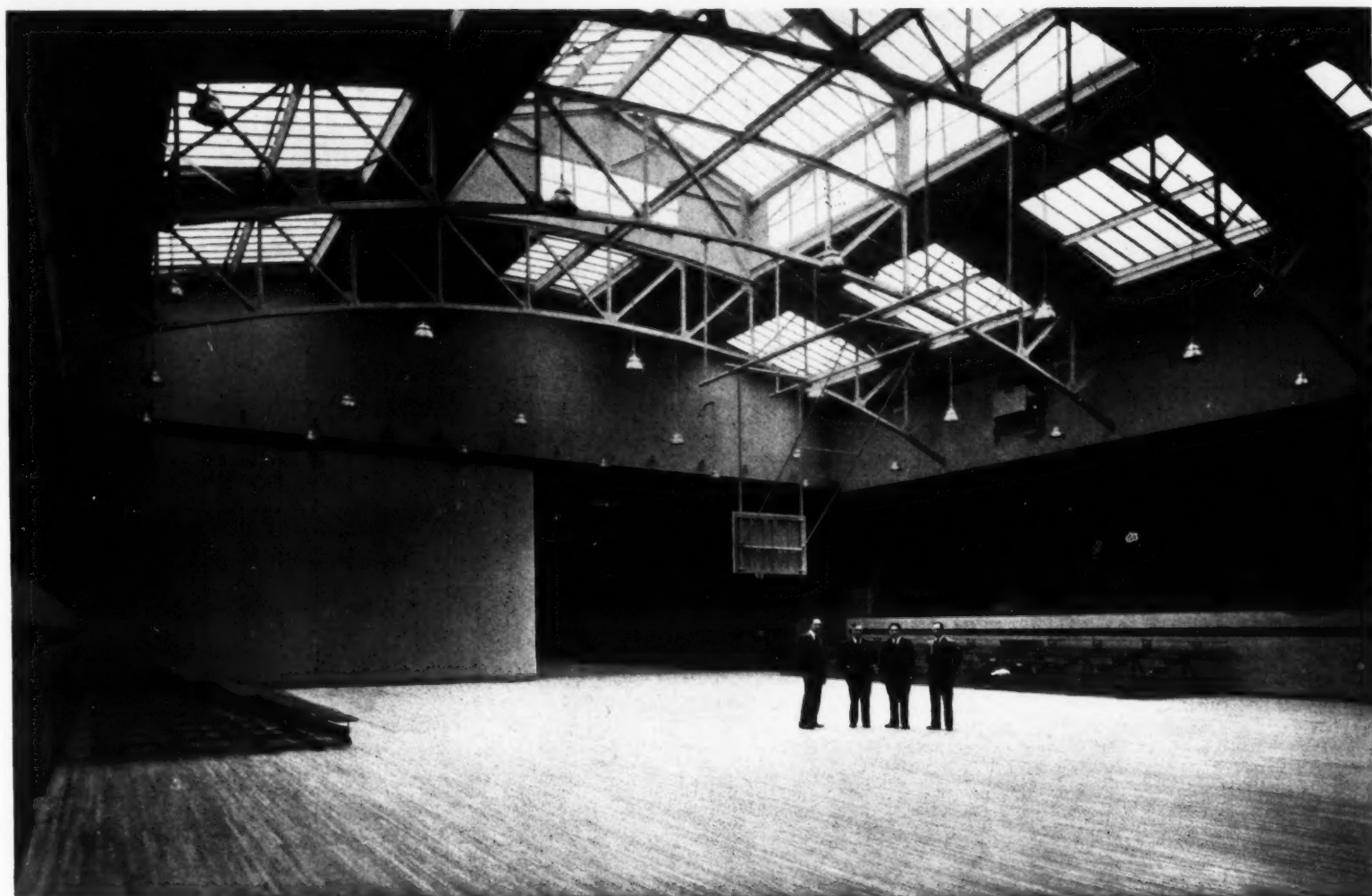
CAFETERIA



AUDITORIUM

INTERIOR VIEWS OF THE BROWNSVILLE JUNIOR COLLEGE HIGH SCHOOL, BROWNSVILLE, TEXAS

This building is part of a central school building group which includes an elementary school and a junior high school, and is the most important unit in a well coordinated, well balanced school system serving a city of 25,000 population. Brownsville is a historic city which was the headquarters of General Taylor during the Mexican war and is the southernmost city geographically in the United States. It is the most important center in the great Rio Grande valley, which is a center of the citrus fruit industry. The city school system has an enrollment of 3,400, of which 150 are in the junior college and 300 in the high school. The building cost approximately \$350,000. Mr. G. W. Gotke is superintendent of schools.



GYMNASIUM, JOLIET TOWNSHIP HIGH SCHOOL AND JUNIOR COLLEGE, JOLIET, ILLINOIS
Burnham Brothers, Architects, Chicago, Illinois

JOLIET TOWNSHIP HIGH SCHOOL AND JUNIOR COLLEGE ADDITION

W. W. Haggard, Supt. of Joliet High School

The Joliet Township High School and Junior College plant has been built in five units in different years. The first unit, containing all the features of a high-school building of its time, was built in 1900, the second or junior-college unit in 1915, the third or shop, cafeteria, and boys' gymnasium unit in 1922, the main auditorium unit in 1924, and the fifth unit this school year, 1930-31.

The architecture of the entire plant is Tudor Gothic. Each unit is constructed of local limestone with Bedford cut-stone trim, followed uniformly to the extent that it is exceedingly difficult to distinguish the dividing lines between units. The first unit was the E-type building, but with the additions the building has become a closed type with courts providing natural light for inside rooms. The fifth unit is a northward extension of the wings of the third unit and of the boys' gymnasium, which is in the third unit.

The purpose of this article is to describe briefly this fifth unit which has just been completed. It is 126 by 230 feet, contains 60,988 square feet of floor space, and is three stories in height, plus the basement under the east wing where the shower and locker rooms are located. The unit is fireproof throughout. Plate glass is used for the lower sashes of windows and tapestry glass for the upper sashes. All woodwork is plain oak. The heating is of the vacuum-steam type with radiators and the unit ventilators are located in the individual rooms. In keeping with the rest of the plant, the classroom floors are maple. The floors and wainscoting of the corridors are terrazzo. In three units of the plant, however, marble is used in the corridors.

This unit contains a girls' gymnasium, a

suite of offices and physical-examination rooms for the girls' physical education department, a locker room, a shower room, a towel and supply room, a suite of nine rooms for the commercial department, a suite of three rooms for the art department with three small auxiliary rooms, a suite of six rooms for trade, related, and architectural drawing, five classrooms, and two study halls. The new gymnasium allows the old girls' gymnasium to be used largely for corrective and special classes. The new suites for the commercial, the art, and the industrial-drawing departments release several rooms for general classroom work.

The girls' gymnasium has a playing floor 100 by 80 feet, identical with the boys' gymnasium

in dimensions of floor space and seating capacity of galleries. It is separated from the boys' gymnasium by a large, soundproof door, 124 feet wide and 22 feet high, which folds in two sections from the center to each side. The weight of the door is 5,000 pounds and is carried by a steel truss which weighs 46 tons. The control of the door is by means of a chain and sprocket and is operated by hand. A basket is suspended over the center of the basketball playing floor of each gymnasium for the purpose of using the combined gymnasiums in case of unusually large basketball crowds.

In the commercial-department suite are three typewriting rooms with acoustically treated

(Concluded on Page 111)



JOLIET TOWNSHIP HIGH SCHOOL AND JUNIOR COLLEGE, JOLIET, ILLINOIS
Burnham Brothers, Architects, Chicago, Illinois

A School-Building-Survey Work Sheet

W. W. Carpenter, University of Missouri

Graduate students in school administration are frequently used in the collection of data for school-survey purposes. Superintendents of schools in smaller communities and directors of research in large cities are occasionally called upon to make surveys of certain elements of the local school. Graduate students in school administration, who have had some experience in teaching and administrative work are frequently used in the collection of data for school-survey purposes. Both local school executives, engaged in self-surveys, and graduate students should be familiar with the usual problems that a survey attempts to answer. They should know what types of information are needed, and any special material that must be used, such as maps and score cards. Before the survey starts, they should know the most probable sources of the data. While the exact source cannot always be predicted yet, knowing where such material has been found in many situations is helpful in suggesting sources in a particular situation. In addition, the superintendent and the student should know ways of handling the information after it is collected, in order that it may be most helpful in interpreting and evaluating the conditions.

The survey work sheets¹ accompanying this article represent an attempt to present the information to a group which assisted in the collection of material needed for a survey of an elementary-school situation. Its general purpose was to assist them in becoming familiar with their particular jobs so that there would be no lost motion when the survey began. The purpose of this sheet was not to replace the usual process of a careful study of the better and more recent surveys; rather it served as a guide for their reading and provided a work plan.

The work sheets listed cover three specific assignments or jobs: the present school plant, a study of the population, and the ability of a community to finance a program. The fourth step, the development of the building program, is dependent on the material collected by these three divisions and is not included here.

These sheets may be suggestive to students of school administration and to administrators who are planning a self-survey, or who are now conducting a continuing survey of their own systems. No attempt has been made to list all of the problems attempted by school-building surveys. It should be borne in mind that the particular situation to be studied, and the problems which it presents, will, to a large degree, determine not only the information needed, but also the way to present the information.

OUTLINE OF SURVEY WORK SHEET

Population Studies

Committee Members:

PROBLEM I. POPULATION TRENDS:

a) What will be the population of the city by years, including the year 1950?

Data Needed: (1) Population of the state; this city and other cities of the same size in the state for several decades. (2) Bell Telephone population forecasts. (3) Record of births and deaths. (4) Data that is available on the other representative factors, such as listed on page 326, *Problems in Educational Administration*, Strayer and Engelhardt.

Source of Data: (1) U. S. Census. (2) Bell Telephone Company. (3) Bureau of Statistics.

Way to Present Data: Chart population trends based on one or more of the following methods of predicting population: (a) Census method. (b) Line of best fit method. (c) Geometric mean. (d) Arithmetic mean. (e) Bell Telephone forecasts. (f) Multiple factor method.

b) In what part of the city are population increases occurring? Will population trends continue in that direction?

¹The sheets were compiled largely from material contained in *School-Building Programs in American Cities*, by Prof. N. L. Engelhardt, of Columbia University, and in the recent surveys.

Data Needed: (1) Areas available for residences in the present city limits. (2) The degree to which the present area is now saturated. (3) The location of births. (4) Building permits (large outline maps of the city). (5) New connections of service—water, electricity, and gas. (6) Proposed extension of service. (7) Proposed transportation extensions. (8) Proposed additions.

Source of Data: (1) City clerk. (2) House count and Sanborn maps. (3) City clerk. (4) City clerk. (5) Service companies. (6) Service companies. (7) Transportation companies. (8) City clerk.

Way to Present Data: Trends in residential areas by means of dot maps and area maps.

PROBLEM II. BUSINESS AND INDUSTRIAL TRENDS:

a) Present location of business and industrial establishments.

b) In what part of the city is expansion likely to occur?

Data Needed: (1) Business and industrial locations. (2) Copy of city zoning laws, if any exist. (3) Direction and speed of industrial expansion as indicated by licenses to do business, date of incorporation, etc.

Source of Data: (1) House count and Sanborn maps. (2) City clerk. (3) City clerk.

Way to Present Data: (1) Map showing the present business and industrial sections of the city. (2) Zones for commercial and industrial expansion. (3) Map showing the direction and speed of industrial expansion.

c) In what parts of the city do the present elementary-school pupils live?

Data Needed: Addresses of elementary-school pupils.

Source of Data: Superintendent's office.

Way to Present Data: Dot maps showing the distribution of the homes of elementary pupils by school buildings.

d) What will be the future enrollments in the elementary schools by years, including the year 1950?

Data Needed: (1) Enrollments of elementary pupils for the past two decades. (2) Nonpublic-school enrollment for the past several years. (3) Relationship of the elementary enrollment to the population.

Source of Data: (1) Files in the superintendent's office. (2) Reports of the parochial schools. (3) U. S. Census.

Way to Present Data: Bar graphs of enrollments and estimated enrollments. Predict elementary population by radio to general population, and by direct predictions as described under I.

e) In what part of the city will the future elementary-school pupils live?

Data Needed: See I, b.

f) General information

Data Needed: General character of the population. *Source of Data:* U. S. Census and Chamber of Commerce literature.

Finance Studies

PROBLEM III. THE PRESENT FINANCIAL SITUATION:

a) What is the total indebtedness and per capita indebtedness in the city and in cities of the same size in this state and in other states?

Data Needed: (1) What percentage of the indebtedness of the city is for the schools? (2) What percentage of this is for the elementary schools?

Source of Data: (1) City clerk. (2) Board of education and committee on population.

Way to Present Data: Bar graphs.

b) When will the present indebtedness be liquidated?

Data Needed: Time on present bonds and payments made.

Source of Data: Superintendent or secretary of board of education.

Way to Present Data: Table of dates, present bonds mature and payments due.

c) What is the tax rate for this city and others as above?

Data Needed: Total tax rate of cities.

Source of Data: Reports of state superintendent.

Way to Present Data: Bar graphs.

d) What is the tax rate for all purposes in the city and for other cities?

Data Needed: Tax rate for municipal, for elementary, for high school.

Source of Data: City clerk and superintendent's report.

Way to Present Data: Tables or graphs showing the tax rates.

e) How much assessed wealth is back of each pupil in this city and in other cities?

Data Needed: Computed valuation of the district and number of pupils.

Source of Data: Superintendent's report or state school report.

Way to Present Data: Bar graph.

PROBLEM IV. FINANCING THE BUILDING PROGRAM:

a) What is the total cost of the program recommended? (Building, sites, and equipment)

Data Needed: The proposed building program.

Source of Data: The building committee.

b) Is there a tendency for wealth in the city to increase?

Data Needed: Estimated wealth increases.

Source of Data: Wealth over a series of years.

Way to Present Data: Graph, line of best fit.

c) What is the plan of payment for the program?

Data Needed: Best practice.

Source of Data: Building surveys.

d) What amount is required to retire the bonds of interest by equal annual payments?

e) What will be the cost per capita as population increases?

Data Needed: (1) Estimated value. (2) Estimated population.

Source of Data: (1) Population committee. (2) Finance committee.

Way to Present Data: Table or graph of costs per capita.

f) What will be the cost per pupil in average daily attendance?

Data Needed: (1) Average daily attendance. (2) Amount required by years.

Way to Present Data: Bar graphs.

g) What is the total tax required to cover the present and proposed indebtedness?

Data Needed: (1) Estimated valuation. (2) Estimated expenditures.

Way to Present Data: Table of tax rates required.

h) Questions arising later.

The Present School Plant

PROBLEM V. GENERAL CONSIDERATIONS

a) What is the expected life of each school building?

Data Needed: (1) Date of erection of the building. (2) Date of additions. (3) Cost of the original and of each addition. (4) Type of construction. (5) Condition of the building by the Strayer and Engelhardt "Score Card for School Buildings."

(6) Rating of building by state insurance department.

Source of Data: 1-2-3—Minutes of board of education; 4-5—Score card; 6—State insurance department.

Way to Present Data: 1-6—Distribute according to age, type, and condition of building.

b) What is the capacity of the present elementary-school plant?

Data Needed: (1) Number of rooms in each building. (2) Capacity of each building. (3) Enrollment of each building. (4) Average daily attendance in each building. (5) Number of pupils in half-day sessions in oversize classes, and in other than regular rooms.

Source of Data: 1-5—Principal's or superintendent's records.

Way to Present Data: 1-4—Tabulate by rooms and by buildings; capacity, enrollment, and average daily attendance. 5—Tabulate the number and per cent.

c) Are the buildings accessible to the elementary-school children?

Data Needed: (1) Location of the homes of pupils. (2) Distance each pupil walks to school.

Source of Data: 1-2—Principal's records.

Way to Present Data: (1) Make dot maps by schools. (2) Make distribution of travel distances.

PROBLEM VI. ARE BUILDINGS ADEQUATE FOR ACCEPTED STANDARDS?

a) How does each building meet the standards as to site, building, service systems, classrooms? (special attention given to playground, health conditions, elimination of hazards, and fire protection)

Data Needed: (1) Adequacy in terms of educational and physical efficiency measured by the S. and E. Score card. (2) Scores of buildings in the main divisions, with especial attention to the items failing to meet the standards.

Source of Data: (1) The application of the score card to each building. (2) Scores.

Way to Present Data: (1) Present adequacy of the buildings by bar graphs. (2) Tables and charts of scores under subheads. (3) Photographs of some of the worst conditions.

PROBLEM VII. HOW WELL IS THE PRESENT PLANT CARED FOR?

Data Needed: Efficiency of the janitorial-engineering service, as measured by the Engelhardt, Reeves, Womrath score card for janitorial and engineering service.

Source of Data: Application of the score card to each building.

Way to Present Data: Tabulate the major items by schools. Use bar graphs.

(Concluded on Page 108)

EMMA MARWEDEL, 1818-1893—An Interpreter of Motherhood

Pioneer Apostle of Froebel and Progressive Education in Germany and the United States*

Fletcher Harper Swift, Professor of Education, University of California at Berkeley

"The turning point in the education of a nation is the training of parents for their mission in life; and this training to be thoroughly effectual must begin when these parents are themselves in infancy."

—EMMA MARWEDEL.

On Friday, November 16, 1893, there lay dying in the German Hospital in San Francisco, an elderly woman nearly 76 years of age. Throughout this, her last illness, she had displayed a pathetic eagerness to live and to do, a feeling that her lifework had not yet been accomplished. Even at the time of her death, she was full of plans and ideas which she intended to give the world. Her friends heard her say, "Oh, I want to live, I have so much to accomplish." She implored former pupils who came to see her to keep the lamp of Froebel burning brightly and to be true to his highest ideals. Her last words to a group of kindergartners who visited her were, "Have faith in the kindergarten, strive to represent Froebel in his essence. I believe in the power of the kindergartner to reform the world."

On Sunday, November 19, the funeral services of Emma Marwedel were held in the Oakland Unitarian Church. Two months later, her earthly possessions were sold at public auction at her late residence in Berkeley. Such was the end of one of the noblest and most sacrificing of women, a woman who may justly be regarded as the mother of training schools for kindergartners on the Pacific coast, and who, through years of sacrifice and unremitting toil, had played an important and heroic part in spreading abroad, first in Germany, and then in the United States, the new gospel of childhood and womanhood, espoused by the great prophet of modern educational reform, Friedrich Wilhelm August Froebel.

Nearly forty years have passed since Emma Marwedel was forced to yield to the summons of death and give up battling for those causes

*NOTE. Professor Swift has spent over a year assembling the basic facts of the life of Emma Marwedel. At the time he began his work, the date of her birth, the names of her parents, and many other equally important data were unknown. Thanks to the cooperation of Dr. von Hentig, German Consul-General at San Francisco, Professor Swift secured from Münden, Germany, Emma Marwedel's birthplace, a copy of her birth certificate, and other important facts. —Editor.



THE OLD ROUND HOUSE

Long erroneously believed to have been the building in which Emma Marwedel conducted her first school in Los Angeles.



MÜNDEEN IN THE PROVINCE OF HANNOVER, GERMANY

The ancient and picturesque city in which Emma Marwedel was born, is situated at the junction of three rivers, the Werra, the Fulda, and the Weser. The Church of St. Blasius in which Emma Marwedel was baptized is seen at the extreme left.

to which her life had been devoted. Rarely has so brief a period dealt so unkindly with one so noble and so great. A name that less than two generations ago was one to conjure with wherever the cause of progressive education was under consideration, is today all but unknown, even in California, and this, not only among the present generation of kindergartners, but among those who labored with her in her own time. One of these, in a letter recently received by the author, wrote: "I should say that Miss Marwedel's kindergarten experience was wholly gained in the United States, that she received her primary inspiration from Elizabeth Peabody in Boston, and went from there to Washington, D. C., where she took a course in training with Mrs. Louise Pollock."

What pathetic testimony these words bear to the oblivion which sometimes speedily enshrouds the memory of even the truly great. Compare them with Miss Peabody's own statement written a few years after her return from Germany whither she had journeyed for the sake of gaining, as she herself states, a true conception of the philosophy and practices of Froebel. "It was Miss Marwedel," wrote Miss Peabody, "who in 1867 first introduced me to Froebel's

genuine kindergarten in the city of Hamburg and inspired me with the courage to make it the main object of the remainder of my life to extend the kindergarten over my own country."¹

Miss Marwedel has often been called the mother of the kindergarten movement on the Pacific coast. How much greater America's debt to her than that implied by such a characterization is strikingly revealed in this statement of Miss Peabody, long acclaimed as the founder of the first American kindergarten in the United States.²

However important Miss Marwedel's work in connection with the kindergarten movement in Germany and the United States, it would be a serious error to conceive of her influence as confined to this cause alone. Her sympathy and her efforts extended far beyond any one type of institution. While in Hamburg she not only conducted a kindergarten, but was for one year (1867-68) directress of the *Gewerbeschule für Mädchen*, now the State Vocational Education School for Women. Born the daughter of a state official, she was early forced by the vicissitudes of fortune to go to work. Thus began her lifelong interest in the social and economic problems of working women, and particularly in their education. This interest led her to spend a year traveling through England, Belgium, and France, studying the economic and social status of working women, and the institutions provided for their training and social betterment. Following her return to Hamburg, she published a notable monograph entitled, *Why Do We Need Female Industrial Schools and How Shall They Be Established? Presented from the Social Standpoint of our Time*.³ This small volume aroused great interest, not only in Germany, but in foreign lands as well. The attention which it received in the United States may be inferred by the fact that it was deemed worthy of a lengthy review written by Miss Peabody in 1870 and published in *Harper's Magazine*.⁴

Emma Marwedel must not be thought of sole-

¹Extract from letter included among the indorsements appended to Emma Marwedel's volume *Conscious Motherhood*, D. C. Heath and Co., 1889.

²The first kindergartens in America were established between 1850-1860 by communities of cultured Germans in New York, Michigan, and Wisconsin. The first of these was opened by Mrs. Carl Schurz in her own home in Watertown, Wis., in 1855.

³*Warum bedürfen wir weibliche Gewerbeschulen und wie sollen sie angelegt sein? Erläutert vom sozialen Standpunkte unserer Zeit von Emma Marwedel, Oberlehrerin an der weiblichen Gewerbeschule in Hamburg* (Hamburg, H. Gruenig, 1868), p. 30.

⁴Vol. 40, pp. 885-891, May, 1870.

ly as a promoter of even two movements, the industrial education of women and the kindergarten, rather, she was the apostle of a new spiritual and educational gospel applicable to every phase of human life and to all mankind. In contrast to the great majority of kindergartners of her own generation, she never conceived of the principles embodied in Froebel's teachings as limited to infant schools. "It is a great error," she wrote, "to suppose Froebel's system is applicable only to very early life. He bases the fundamental principles of education on the universal laws of nature. He, therefore, demands a methodical unification in education."⁵

Emma Marwedel was vitally interested in training kindergarten teachers and establishing free kindergartens because she believed that through a new system of education, beginning with the kindergarten and extending up to and including the highest levels of the educational process, lay the path leading to the emancipation of women, the perfection of motherhood, and the regeneration of the human race. The startling increase in crime, intemperance, and insanity, were to her, evidences of the failure of the prevailing systems of education. In place of these traditional disciplinary and repressive systems, she proposed to establish a world-wide system of creative and joyous education, based upon a scientific study of the laws of human nature. In this new education, the child from his earliest to his latest years should combine work and play, and thus learn the beauty and joy of labor. In all her educational efforts, she undertook to combine industrial and artistic training and activities with those ordinarily associated with the kindergarten. More than this, as opportunity offered, she established industrial schools. In her article on "Prevention of Criminal Idleness," she refers to an evening industrial school which she had opened in San Francisco. She supports her claim that such schools answer a vital need of childhood and youth by declaring that, "Having told some boys of from 12 to 14 years of age, to whom (years before) I had given kindergarten occupations in San Francisco, that I would open separate classes for them in manual occupations, I had to call upon a policeman to open the door from the inside as the children filled the whole street so that we could not get in."

In still another capacity, Emma Marwedel exercised a marked but heretofore unrecognized influence upon American education. It is probable that no other educational leader of her generation had read more widely, or had greater familiarity with the contributions of scientific students of education throughout the world. Her writings are replete with citations from Preyer, Seguin, Galton, and Maudsley. In many cases it was she who first made known the names of these and other great scientific students of education to American educators. In later years Earl Barnes wrote: "It was she who first introduced me to Seguin's writings."⁶

Let us add that it was Emma Marwedel who in Part II of her volume, *Conscious Motherhood*, presented what appears to be the first English translation of Preyer's *The Mind of the Child*. This, her most important volume, reveals a thorough knowledge of the history of education from ancient to modern times, and a familiarity with the writings of the great classical authors, and also an intimate acquaintance with educational experiments being conducted throughout European countries.

No early pioneer urged with greater vigor and insistence the necessity of basing education upon a scientific study of human nature. Again she writes, "The characteristic of the nineteenth century is a craving for truth, an insight into



EMMA MARWEDEL

A photographic copy of a large undated portrait of Emma Marwedel by Helen Tanner Brodt which now hangs in the library of the School of Education, Leland Stanford Junior University, California. Photographed by Berton Crandall, photographer, Palo Alto, California. Courtesy of Prof. John C. Almack of Stanford University.

the uniformity of organic law. Man not only puts the almost invisible parasite under the microscope, but he subjects himself to the same minute investigation."⁷

In this day of agitation for parental education, it is both illuminating and startling to read the following declaration: "The turning point in the education of a nation is the training of parents for their mission in life; and this training to be thoroughly effectual must begin when these parents are themselves in infancy."⁸

Elsewhere she writes: "The child's first mission opens with its helplessness which is its great silent claim to be saved from the evils under which it is born and from which it suffers while passing through life. The child is man's civilizer, purifier, and redeemer."

Had Emma Marwedel contributed to none or to only a few of the movements and forces thus far described, her name would deserve a lasting place in the history of education in the United States for one reason alone, namely, that it was she who established in Los Angeles the first kindergarten training class on the Pacific coast, and numbered among her pupils in this first class, one whose name and influence became a world power, Kate Douglas Wiggin.

From this brief recital of some of the more significant ways in which Miss Marwedel con-

tributed to education, attention may now be directed to the account of a life which up to the present time has been largely shrouded in mystery.

Emma Jacobina Christiana Marwedel was born February 27, 1818, in the ancient and picturesque city of Münden, in the Province of Hannover, not far from Göttingen, Germany.⁹ She was one of five children, probably the eldest, born to Captain Heinrich Ludwig Marwedel and his wife, Jacobina Carolina Christiana Maria Marwedel. The family was one of definite social status, her father being at the time of her birth assistant judge (Amtsassessor) of the district of Münden. When a mere girl, she lost her mother, and a large share of household work, together with the care of her brothers and sisters, fell to her lot. Following her father's untimely death, finding herself "without sufficient means, she went to work. The idea of an officer's daughter working!"¹⁰

Little is known regarding her education. Educational facilities for women were meager in Germany at the time when Emma Marwedel was growing into womanhood. "It was very

⁵Elizabeth Harrison, "Miss Emily Marwedel," National Education Association, *Addresses and Proceedings*, 1894, pp. 239-40.

⁶Earl Barnes, "Emma Marwedel," *Pioneers of the Kindergarten in America*, pp. 269.

⁷Emma Marwedel, *Conscious Motherhood*, p. 18 (condensed by writer).

⁸"A Warning to Parents" (an interview granted by Emma Marwedel) published in the *San Francisco Call Supplement*, June 12, 1894, p. 5, col. 1.

⁹No previously published account has given the date of Emma Marwedel's birth or the names of her parents. The data here presented are taken from *Auszug aus dem Geburts- und Taufregister evangelisch-lutherischen Parochie St. Blasii zu Hann. Münden*, Provinz Hannover, Jahrgang 1818, pag. 353, Nr. 20.

¹⁰Quoted from a personal letter to Professor F. H. Swift written by Mrs. May Benton MacLafferty, dated November 18, 1930. Miss Marwedel lived for some time in the home of Professor and Mrs. Benton, the parents of Mrs. MacLafferty, and Miss May Benton was one of her most highly esteemed pupils.

difficult in those days for a woman to rise to public recognition, yet in spite of that we find her elected in 1864, in Leipsig, to the board of directors of an association for the promotion of public education; and in 1865 she became a member of the first German association for the advancement of women.¹¹

To the all-important question, where did Emma Marwedel receive her training as a kindergartner, various and conflicting answers have been given. Certain writers and friends declare that she received her training from Frau Froebel; others from Froebel himself. Still others assert she was self-taught, having studied Froebel's works by herself. It is entirely possible that she had studied both under Froebel and later under his widow, for at the time Emma Marwedel was directing a kindergarten in Hamburg, the widow Froebel had already been conducting kindergarten training courses in that city for approximately thirteen years.

Miss Peabody's plan for fostering the kindergarten movement included bringing to America a number of carefully trained kindergartners from Germany. In view of the tribute she later paid to Emma Marwedel, and which has already been quoted in an earlier paragraph, we can well understand her efforts to induce Miss Marwedel to come to America. It is easy to imagine also with what enthusiasm Emma Marwedel accepted the call.

Failing to find, following her arrival in the United States, the opportunity she had expected of establishing a kindergarten training school under the proper conditions, Emma Marwedel opened in 1870 near Brentwood, Long Island, a cooperative, self-supporting, industrial institute for the training of women as practical florists and agriculturists. This institution was doomed to a brief existence, owing to the fact that it was connected with a real estate enterprise which soon ended in failure. Miss Marwedel then went to Washington, D. C., where between the years 1872 and 1876 she conducted with great success a School of Industrial Arts, a school for training kindergartners, and a kindergarten. The confidence which Emma Marwedel rapidly gained in Washington and the status of her school can be inferred from the fact that she counted among her patrons many of Washington's most distinguished citizens, including Congressman James A. Garfield, later president of the United States, Senator John Sherman, Senator William Sprague, and Mrs. Carl Schurz.

In 1876, in response to a call from California for a trainer of kindergartners, Emma Marwedel left Washington for Los Angeles. In the fall of that year she established the first training class for kindergartners ever organized on the Pacific coast. Disappointed with the results of two years' experience in Los Angeles, Miss Marwedel moved to northern California, where she conducted kindergartens and training classes first in Oakland in 1878, then in Berkeley in 1879, and finally in San Francisco, from 1880 until 1886.¹² Throughout all these years Miss Marwedel kept up a constant fight for the cause to which she had devoted her life. Many were the discouragements which she met, but no obstacles, however great, could daunt her courage. In 1882, at the age of 64, she journeyed from California to Detroit en route for Chicago in a common caboose, attached to an immigrant train, to attend a meeting of the National Education Association, where it was hoped a department of kindergarten education might be organized. "She reached Chicago weary and worn, travel-stained, and pathetically exhausted. The inconvenience and discomforts of the trip were

such minor matters to her, that within five minutes after she reached the friendly home of a Chicago coworker, she was eagerly and joyfully talking of the coming convention and what it signified for the kindergarten cause."¹³

Emma Marwedel's retirement from active teaching in 1885 failed to lessen the zeal with which she devoted herself to promoting the cause of the kindergarten and to spreading abroad in America her interpretation of the educational philosophy and practices of Froebel. She traveled widely and continued to play a vigorous and important part in the organization of free kindergartens, free industrial schools, and Froebelian societies. Her devotion to these causes now bordered on fanaticism. Thanks to the generosity of Mrs. Phoebe Hearst, she received a monthly allowance which would have made it possible for her to pass her last days in comfort and ease, but the money which she should have spent for food and other necessities, she used for the promulgation of her ideas, the purchase of materials with which to work, and the publication of kindergarten charts. Those who knew her intimately assert that in order to secure funds for these purposes she actually starved herself in a manner which undermined her health.

Emma Marwedel's last resting place is in the beautiful Mountain View Cemetery in Oakland, Calif. Above her grave rises a granite monument consisting of a cube, a cylinder, and a sphere, resting one upon the other, thus duplicating in design the monument which marks the grave of her master teacher. Engraved on the face of the cube is the following inscription:¹⁴

EMMA MARWEDEL

Born in Germany

1817

Died in San Francisco

1893

She Loved Little Children

Emma Marwedel's success and the importance of her contribution to the kindergarten movement in the United States cannot be measured

¹¹Elizabeth Harrison, "Miss Emily Marwedel," National Education Association, *Addresses and Proceedings*, 1894, pp. 239-40.

¹²The year 1817 engraved on this monument is incorrect. This error shows how little Emma Marwedel's friends knew of the facts of her life. The date of her death, given in the present account, November 17, 1893, is taken from the *Todten Register* (Record of Deaths) of the German Hospital (now the Franklin Hospital) of San Francisco, volume 5, p. 247.



The inscription incorrectly gives 1817 as the year of birth. Photograph furnished through the courtesy of Mr. Rudolph Lindquist, Assistant Superintendent of Public Schools, Oakland, Calif.

from the standpoint of material achievements. She did not establish the first kindergarten in California, although she did establish the first kindergarten training school. Her greatest contribution lies in the inspiration and guidance she gave to others. She possessed in a supreme degree the qualities most essential in a pioneer apostle of a great but uncomprehended cause—high intelligence, courage, determination, complete absorption in the vistas of a vision that stretched from the present to generations yet unborn. These were the qualities which won her the friendship of the intellectual and social leaders of every community where she undertook her work. With remarkable exactness she foresaw and prophesied the final acceptance, public establishment, support, and great future of the kindergarten in America. That in the fulfillment of this prophecy California has played a leading part, is undoubtedly largely due to the pioneer work of Emma Marwedel.

The present account may well close with her own statement as to the motive force that inspired and guided her throughout her life: "My inspiration in writing this book *Conscious Motherhood*, has been sympathy with the mother in her immeasurable responsibility; the conception of childhood's rights to justice and happiness; and finally an abiding faith in the mental and physical evolution of the race."

RURAL SCHOOLHOUSE SURVEY COMPLETED

The average one-room rural-school teacher has a total education of four years and one month above grade school, with a teaching experience of less than three years. She receives an annual salary of \$874, and has 22 farm children under her care, according to a recent study just completed by the U. S. Office of Education. Although the one-room rural schools are disappearing at the rate of 4,200 per year, they still serve more rural children than any other type of school, according to the findings of the Office of Education.

The study reveals the extent of the training of teachers of the 153,000 one-room rural schools of the United States. If all the teachers of one-teacher schools stood side by side, their ranks would extend in an unbroken line 87½ miles. Assuming this army of teachers were arranged in such a way that the one having received the least amount of training stood at one end and the one with the largest amount of training at the other, a person reviewing this company would find it necessary to walk a distance of 8½ miles before coming to a teacher with a training equivalent to two years of high school.

One would have to walk half the entire distance before approaching a teacher with training equal to high-school graduation, and would have to continue his walk for a distance of 67½ miles before reaching the first teacher with the equivalent of 2 years of normal-school education. The jaunt would be continued to within 13 miles of the end of the line before one who had the equivalent of a college education would be reached.

Since men teachers are a great scarcity in one-teacher schools the typical teacher is a woman about 27 years old. She would have a total education of four years and one month above the grade school; her teaching experience would total 2 years and 6 months; she would receive an annual salary of \$874; she would have under her care a total of 22 farm children, and she would be employed in her school for a total of 152 days a year.

Administration

NEW YORK HIGH SCHOOLS GET 1,000 MORE TEACHERS

One thousand additional teaching positions, to cost more than \$2,250,000 a year, have been established for the New York City day high schools during the school year which opens in September. The increase represents the greatest enlargement of the teaching staff ever allowed by the board of education for the high schools of the city. There are now 41 such schools, an increase of 9 over the number existing a decade ago.

¹³Albin Putzker, *op. cit.* Professor Putzker was for many years a professor of German at the University of California, Berkeley, and a devoted admirer of Miss Marwedel.

¹⁴It has been impossible to determine with accuracy how long Miss Marwedel continued to direct her Pacific Kindergarten Normal School in San Francisco. The date here given seems to be the most probable one.

Decline in Interest Rates Halted¹

Harold F. Clark, Ph. D., New York

The month of June showed the slightest reversal of the downward trend of school-bond interest rates. After declining in March, April, and May, school bonds during the month of June rose 1/100 of 1 per cent in net interest rate. The net interest rate on all school bonds sold during the month of June was 4.06 per cent. The low point in the current decline was reached in May at a level of 4.05 per cent.

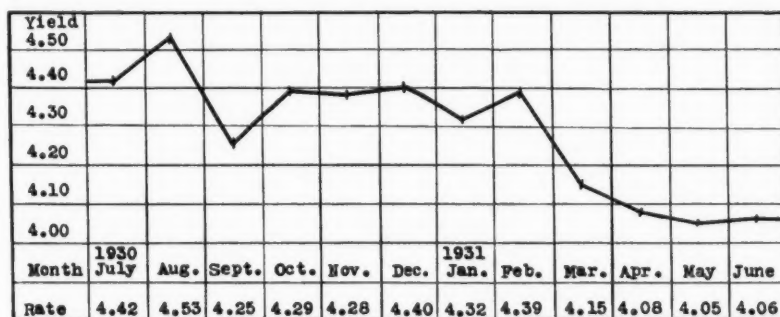


TABLE I. AVERAGE PRICE OF ALL SCHOOL BONDS SOLD DURING THE MONTH

There were many factors working toward this temporary reversal of trend. One was the very large sale of municipal bonds. In May, school bonds had reached the lowest net interest rate in the past 25 years. It was only natural that some temporary halt in the decline take place. A more important factor was the reversal of the course of stock-market prices in June. With the announcement by President Hoover of the plan to provide for a moratorium, prices on common stocks increased sharply. This increase also was felt in preferred stocks and second-grade bonds. The very highest-grade bonds, on the other hand, particularly municipals, tended to drop in price. This is not surprising, perhaps, when we remember that during the spring and early summer people were so extremely careful that they were interested in only the high-grade type of security. This temporarily increased the premium that would be paid for the better-grade municipal bonds and doubtless carried them to a level higher than was justified.

TABLE II. Amount and Yield of Bond Issues

1. School bonds during the month ¹ of June.....	\$ 19,800,000
2. All municipal securities sold during the year (to date).....	847,000,000
3. All school bonds outstanding (estimated).....	2,269,000,000
4. Average yield of all school bonds outstanding (estimated).....	4.61%
5. Yield of school bonds of ten large cities.....	4.09%
6. Yield of United States long-term bonds.....	3.11%

¹The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yield on some of the issues.

This temporary reversal of the trend of school-bond interest rates is not likely to be permanent unless a real demand develops for money in other channels. In the light of the best evidence that is available at the present time, it seems highly improbable that any very great demand is going to develop for money in the immediate future. There is such a great excess of money in all of the major markets in the United States that it seems very improbable that there will not be a large surplus available after industrial and commercial needs are met.

The extent of this surplus money is revealed very well by the rate at which the Treasury was able to sell its securities in the month of June. Toward the end of June the Treasury sold bills at the almost unbelievable rate of 5/8 of 1 per cent. It is quite true that the Treasury has at times been able to do short-term financing as low as 1 per cent, but the periods have been very few and very short in the entire financial history of the country when any such

rate as 5/8 of 1 per cent is available on even the short-term securities of the United States Government. Early in June the Treasury was able to offer 3 1/8 per cent long-term bonds and to have them oversubscribed by billions of dollars. These two items show clearly the enormous surplus of funds waiting to be invested. Although there may be and doubtless will be temporary fluctuations in the price of muni-

cipal and school bonds, there is every reason to think that, barring some unexpected factors, interest rates will go to even lower levels. As suggested before, we would be inclined to consider 4 per cent as perhaps the crucial point on our index. If and when the index of school-bond prices crosses 4 per cent, school bonds are definitely low on any basis of comparison that one can choose.

TABLE III. Bond Sales and Rates¹

Year	All Public			Year	Municipal
	School	Municipal	Private		
1929	230*	1,431	10,194*	1929	4.67*
1928	218	1,414	8,050	1928	4.45
1927	266	1,509	7,776	1927	4.49
1926	260	1,365	6,344	1926	4.61
1925	323	1,399	6,223	1925	4.58
1924	288	1,398	5,593	1924	4.26
1923	206	1,063	4,303	1923	4.303
1922	237	1,101	4,313	1922	4.81
1921	215	1,208	3,576	1921	5.18
1920	130	683	3,634	1920	5.12
1919	103	691	3,588	1919	5.04
1918	41	296	14,368	1918	4.90
1917	60	451	9,984	1917	4.58
1916	70	457	5,032	1916	4.18
1915	81	498	5,275	1915	4.58
1914	42	320	2,400	1914	4.38

¹By special permission based upon sales reported by the Commercial and Financial Chronicle.

*Not final.

The month of June saw some amazing sales made as far as the rate of interest was concerned. Several communities sold school bonds at net interest rates of between 3.30 and 3.40 per cent. One small city in Massachusetts actually sold school bonds at a net interest rate of 3.30 per cent. This is an amazing record and one of which any community should be proud. It is perhaps of passing interest that according to the calculation reported in the Bulletin of the Federal Reserve Board, long-term Federal Treasury bonds were yielding the same. Any school district that can sell its bonds on a net-yield base approaching the Federal Government is doing well, to express it mildly. Any community that sold bonds at less than 3.50 per cent may well be proud of itself. Any community today that is paying more than 4.50

TABLE IV. Average Yield of Long-Term Federal Government Bonds¹

Month	Rate	Year	Rate %
July	3.29*	1930	3.397
June	3.30*	1929	3.644
May	3.32	1928	3.437
April	3.39	1927	3.464
Mar.	3.39	1926	3.544
Feb.	3.40	1925	3.797
Jan.	3.33	1924	4.010
1930		1923	4.298
Dec.	3.34	1922	4.301
Nov.	3.32		
Oct.	3.34		
Sept.	3.37		
Aug.	3.38		

¹Taken from Federal Reserve Bulletin.

*Not final.

per cent on its bonds should examine conditions very carefully to see if there are some special factors responsible for this high rate. Unless the credit conditions of the community are very poor, such an interest rate undoubtedly indicates great carelessness on the part of those selling the bonds. It seems impossible that a local paper of a small town in the middle west recently commented on a school-bond sale that carried a net interest rate of 6 per cent and said that the sale was a great success.

Table IV indicates some further drop in the yield of long-term Federal Government bonds. These yields, although taken from the Federal Reserve Bulletin, are so calculated as to give an impression that the rates are really higher than can be obtained on the current level of prices.

TABLE V. Security Prices and Yields ¹			
1931	Average Price of 404 Stocks (1926 Average=100)	Average of 60 Bonds	Average Yield of 60 High-Grade Bonds
Date			
July	97.4*	99.8	4.42
June	95.1*	99.3	4.45
May	98.0	99.7	4.43
Feb.	119.8	99.4	4.44
Jan.	112.3	99.6	4.43
1930			
Dec.	109.4	97.8	4.55
Nov.	116.7	99.1	4.46
Oct.	127.6	100.0	4.41
Sept.	148.8	100.0	4.41
Aug.	147.6	99.6	4.43

¹As reported by Standard Statistics Company, Inc. Used by special permission.

*Not final.

Table V shows the low level to which average stock prices have fallen and indicates the slight improvement that occurred during the end of June and the early part of July. The average price of 60 high-grade bonds shows the fluctuations due to a great variety of forces. There is every reason to expect these bonds to go back over 100 again.

TABLE VI. Revised Index Number of Wholesale Price (United States Bureau of Labor Statistics, 1926=100)

Month	All Commodities	Building Materials	Year	All Commodities	Building Materials
1931			1930	86.3	90.3
July	70.8*	77.8*	1929	96.5	104.0
June	71.0*	78.6*	1928	97.7	93.7
May	71.3	78.4*	1927	95.4	93.3
Apr.	73.3	80.9	1926	100.0	100.0
Mar.	74.5	81.9	1925	103.5	101.7
Feb.	75.5	81.8	1924	98.1	102.3
Jan.	77.0	82.9			
1930					
Dec.	78.4	84.4			
Nov.	80.4	85.6			
Oct.	82.6	85.8			
Sept.	84.2	86.4			
Aug.	84.0	87.4			

*Not final.

Table VI shows the continued fall in the price of all commodities and the prices of building materials.

NEW WISCONSIN SCHOOL LAWS

Although the two important school bills of the Wisconsin legislative session—state aid to high schools and the reorganization of the educational system—were defeated in the legislature, fourteen changes have been made in the school laws affecting practically all of the schools of the state.

Of the more important of the school laws of 1931, chapter 41 amends the subsection of section 74.15 of the statutes relating to the payment of the county school tax. It provides that out of the taxes collected, the treasurer must first pay the state tax to the county treasurer, then the equalization taxes levied by the county for school purposes, and must set aside all sums of money levied for school taxes. No money may be appropriated to the payment of judgments or other town purposes until money sufficient to meet the requirements of the schools has been collected and set aside.

Chapter 233 places it within the power of the county board to appropriate to any school district, in which is located a county farm or state charitable or penal institution or any state-owned lands which are used for agricultural purposes, a sum equal to the amount that would be paid as school taxes upon such farm land or part thereof situated within such district as if such land were privately owned. It is the duty of the county board to make an estimate of the valuation of this land.

THE AMERICAN School Board Journal

EDITORS:



WM. GEO. BRUCE

WM. C. BRUCE

The Superintendent who Succeeds Another

THE educator who has served a community with exceptional efficiency as superintendent of schools has also established in the public mind certain educational standards, conceptions, and ideals. The man who succeeds him is likely to be measured by the same standards, conceptions, and ideals.

The acceptance of the new man sometimes rests upon the circumstances which unmade his predecessor, rather than upon his own merits as a man and educator. The superintendent who follows another superintendent cannot ignore circumstances and influences which culminated in the change that brought him upon the scene.

If a partisan feeling on the part of the board-of-education membership compelled the retirement of a superintendent, it is not always certain that his friends on the board will welcome his successor in any whole-hearted way. It takes a big man to succeed a big man and hold his own.

At South Bend, Indiana, W. W. Borden retired from the school superintendency. He was succeeded by Frank E. Allen, of Muncie, Indiana. Both are educators of high standing. According to the public press "Borden was so illy treated by the school board that he was compelled as a matter of self-respect and good citizenship to resign."

Thus the editor holds that "Mr. Allen comes to South Bend under distinctly unenviable circumstances. . . . Whether Mr. Allen will measure up to this record, exceed it, or fall short will be known only by his official and private acts. He may have the ability, the capacity, the breadth of vision, the physical and mental activity, and the courage to exceed the gratifying record made by his predecessor. That depends entirely upon Mr. Allen; and he will be most closely observed from the moment he assumes the position, especially by parents who have been so satisfied with the schools and their progress under Mr. Borden."

It does make a difference whether the one is relatively as big a man as was his predecessor. Comparisons are bound to be made. The second is bound to gain or lose in prestige and standing if solely measured by the first. He must be measured upon his own merits, attributes, and characteristics, rather than upon the yardstick of a predecessor.

Here we do not pretend to judge the merits of the South Bend situation. The board of education of that city may have had good and sufficient reasons of its own in making the superintendency change. The point to be made here is that while men may differ in personality, manner and methods, they must after all be judged by the results they achieve. The new man must be given sufficient time and latitude to demonstrate his worth. He must be accepted as a separate entity in point of personality, manner, and method, rather than something to be weighed and measured in the light of a predecessor.

The School Plant Versus Factory Plant

THE tendency to liken a school system to an industrial corporation with its controlling board, its managers and shop superintendents, its production and sales organization, has not been without its suggestive value. It has unquestionably caused refinements to the school-administrative service, or at least brought the several relationships into bolder relief.

There is no question that three decades ago these relationships were in a muddled condition. The board-of-education member then

arrogated to himself prerogatives which clearly came within the province of the professional worker. He exercised initial as well as final authority over the selection of teachers, textbooks, and courses of study. The superintendent was in many instances a mere clerk rather than an executive.

The business man who came upon the scene, and who was intimately identified with a commercial or industrial enterprise, saw that the management of a school plant presented problems similar to those which obtained in every large corporate undertaking. A board of directors served as a policy-making body, employed those equipped with expert knowledge to carry on, delegated authority and exacted results. The alignments and contacts were established upon the efficiency basis.

The school plant is in some respects analogous to the industrial plant. The taxpayers are the stockholders, the board of education the board of directors, the superintendent of schools the manager, the principals the foremen, the teachers the skilled workers, the raw material the pupils, the finished product the graduates who have been prepared for the duties of life.

Let us look for a moment at the factory side of the case. Supposing every director of an industrial corporation were permitted to go into the plant and boss the workmen, select the raw materials to be used, or direct the methods of production. Why employ superintendents and foremen if every director is a law unto himself? Managers and foremen are called upon to carry out the policies which the directors in their collective capacity have formulated. They delegate authority to the executives and hold them responsible for results.

And yet there are members of boards of education who do not appreciate the fact that the running of the schools must be left to the superintendent and principals if desired results are to be obtained. Any meddling with the appointment of teachers, the adoption of textbooks, or the building of a course of studies leads to disorganization and inefficiency.

It is unnecessary to dwell upon the essential differences between a school and a factory plant. These differences are so obvious that no one is likely to become confused. In the one, inanimate material is manipulated and a financial profit is the ultimate objective. In the other, the purpose is to train a most precious possession: namely, the rising generation into useful citizenship. The point to be made is that the school-administrative service has gained rather than lost by accepting some of the organization plans employed in the field of commerce and industry.

American School Architecture a Culture Incentive

IT WAS the progressive spirit of the school administrator, coupled with the genius of the architect and builder, that evolved the American schoolhouse which must be regarded as a distinctive achievement in the field of architecture. That achievement means more than a mere addition to an art which has concerned itself with many kinds and types of structures. It is distinctive in that it excels all similar efforts of all lands and all times.

The thought we desire to emphasize here is that American school architecture has combined utility with beauty in a manner that meets the needs and purposes of popular education in a most complete manner. While it is true that the courses of study employed in this country may differ from those of other countries and hence requires housing best adapted to operation, it nevertheless is equally true that the genius of architecture has met these needs in an eloquent manner.

While the modern school structure facilitates the process of school labors in that the orientation of floor space is ingeniously adjusted to the movements of students and instructors, there is another phase which is equally important. It relates to the influences which good architecture generally exerts upon the community.

That architecture which finds expression in a variety of structures also becomes more pronounced in certain types of buildings than in others. As a public structure the schoolhouse leads at least in point of the building arts.

There are those who believe that the rising generation should, from time to time, be told something about architecture, its history, its

accomplishments, its achievements. "Environment is recognized by educators as highly important in the development of individuals" says the *American Architect* in a recent issue. "Association with good architecture, or art in any form, is equally important. This begins with a school building that possesses good architecture, and classrooms that are examples of good taste. The school building can be made an object of instruction by telling numbers. City halls, courthouses, police and fire stations are less numerous. But, a schoolhouse, and more particularly a high school, lends itself to exceptional grace and beauty in design and outline. In fact in many communities the best architectural expression is embodied in a local high school.

"Good architecture trains the eye in the direction of appreciation for the attractive in form, the graceful in design, and the dignified in outline. It enhances the cultural tastes of the community, and stimulates an interest for the finer achievements, why its architecture is good, and why it was built as it is. Constant association with good examples of architecture would soon develop a subconscious appreciation of beautiful buildings; many of the children would no doubt soon develop a critical sense that would permit them to distinguish between good and bad art."

It remains to be said that since modern school architecture has been developed to a high degree of perfection and gives expression to the finer impulses in cultural achievement, it is also entirely logical that the educational forces avail themselves to the fullest of its beneficent offerings.

The Summer Raid on School Property

WHEN the schools throughout the country reopen for the autumn season it will be found that much school property has been destroyed during the summer months. This statement may seem somewhat startling, but if it is reasonable to assume that what happened in the past will happen in the future, our prediction is fully warranted.

It is during the vacation months, when school property is not under a watchful custodianship, that vandalism is at its worst. The school officers usually report that the repairs made necessary through the willful destruction of school property runs into tremendous figures of expense. In some of the larger cities of the middle west the item of broken windows alone has run into thousands of dollars.

Some of the boards of education have resorted to police protection and have been inclined to deal severely with the offenders. Others have made no special efforts to guard school plants, but have relied upon the general disciplinary influences exerted by the faculty during the entire school year.

The caution sent out that boys who willfully destroy property during the summer months will be prosecuted according to law, and that their parents will be held for the financial loss entailed, has been a beneficial result. But, after all, the best results are obtained when the faculty instills a pupil constituency, from time to time, with a proper respect for property as a part of the training for good citizenship.

Price and Quality Factors in School Contracts

THE method employed by the public authorities in awarding contracts, based upon the competitive idea, is universally established. To recognize the advantage of both price and quality is its purpose. The lowest bidder is supposed to win, and usually does.

When it comes to the matter of quality a different story is frequently unfolded. Specifications are drawn up in order to fix standards and to compel fair play in competitive bidding. The buyer specifies quality, sizes, dimensions, quantity, etc. The seller, it is taken for granted, aims to meet these specifications. The lowest bid secures the contract. But, does it necessarily follow that the buyer has secured the most advantageous bargain?

The complaint occasionally heard on the award of school contracts is that someone has ignored the specifications in that an inferior article has been recognized, or at least that an article below the standard specified, has been purchased. Those who award contracts may console themselves with the thought that they have secured their money's worth, and that, after all, is the real purpose of correct buying.

There is, however, another side to this method of awarding contracts. Let us say that specifications have been submitted. The reputable contractor has based his figures upon the quality and conditions which have been imposed. He finds that the award has gone to his competitor for a cheaper article, and one which ignores the specifications.

In the purchase of equipment, supplies, and paraphernalia for use in the schools there are many articles which may vary considerably in quality, size, and utility — particularly in machinery and apparatus used in vocational schools and science departments. The school officials are entirely within their rights in selecting the things that afford the most advantageous bargain.

There is, however, an ethical question and a consideration which cannot be ignored. The seller is in duty bound to live up to the bargain entered into with the buyer. Likewise, the buyer must deal fairly with the seller. Primarily he must adhere to the specifications if he invites bidding upon the terms which they impose.

To invite bidders to submit samples and figures as per specifications and then to ignore the specifications is as unethical as is the attempt of the contractor to supply an article which does not measure up to the standards called for.

Whatever may be the abuses that have crept into public contracting it would seem that a board of education, above all other public bodies, should adhere to methods which are above reproach. While they should be strict in exacting honesty in quality and service on the part of the seller, they should also exercise the highest sense of honor in their methods of purchase.

Some Practices in Teacher Selection

THE experiences of the year in the appointment of teachers lead to the conclusion that the economic pressure which is upon the country is asserting itself in some phases of the school-administrative service. While the tendency toward retrenchment has been manifested in a general way, there has also been a more discriminating attitude on the part of the school authorities in the selection of teachers.

Home talent has been favored more than ever before. The rules against the married women teachers have been tightened to a considerable degree. The community spirit has leaned toward provincialism. Nepotism has asserted itself with greater frequency. The law of self-preservation has asserted itself with exceptional vigor. The rule which places the selection of the teaching personnel in the hands of the superintendent has come into conflict with the board member who proposes his own candidate.

"The four most particularly objectionable practices in respect to the selection of teachers," says Prof. J. B. Shouse, of Marshall College, "are the following: nepotism; patronage; partisanship; provincialism." He then explains that: "While nepotism, strictly speaking refers to the employment of relatives, it can be made to include the employment of close personal friends. Patronage takes up the case where nepotism leaves off (wherever that is), and refers to the exercise of employing authority for the discharge of obligations or the building up of an obligated clientele. Partisanship is likely to be operative in patronage, but may operate independently; it simply means favoritism founded upon common membership in a group or party; it is the place where political connection determines the fitness of candidates. Provincialism marks the preferring of local candidates for teaching positions; in more extreme form it may go so far as to include refusal to employ other than local candidates."

The question which arises here is whether the evil complained of exists in the degree that some educators would have us believe. The board-of-education member who is conscious of the duties of his office does not countenance the irrelevant, the unwise, the harmful in the selection of teacher talent. He knows that such selection does not lie within his province, and rather feels relieved in the thought that the burden rests upon other shoulders.

It is our firm conviction, that while the practices complained of must be condemned, they are highly exceptional and do not stand as a charge against the modern board of education. It may be well to point out the lapses and shortcomings into which the appointing authorities may fall, and in a few cases have fallen, but is also well to distinguish between the general and the occasional.

A Personal View of a Great Convention

A Report of the Los Angeles N. E. A. Meeting

Fred J. Ward

To those who go regularly to small conventions, like the teachers' meetings held in Montana, the first view of the N.E.A. assembly gives the impression of gigantic size. We are informed that the Los Angeles meeting was the largest in the history of the organization. There were representatives from every state in the Union. More than a thousand attended from the Bay District of California alone. Hawaii sent a crowd wearing paper leis. Atlantic City staged a demonstration Wednesday morning with songs and pictures of the playground of the eastern American seaboard. Altogether there were about 25,000 enrolled.

The thousands at the general meetings in the great Shrine Auditorium gave emphasis to the universal scope of the teaching business. The sight was convincing evidence that education is one of America's greatest enterprises. The polished and sometimes very graceful speeches heard in the general sessions in the sectional meetings, and in the banquet halls; the panorama of frocks and gowns which appeared from the press box as colorful as a California poppy field, all demonstrate the taste and character of the people engaged in teaching.

A reporter was heard to complain that the meeting was too big for effective reporting. What he meant was that any one of the sessions would make a story by itself, and to report the affair in its completeness would make the account entirely too long. Such was the case. A column could be written about the entertainment furnished by the teachers and pupils of Los Angeles with their bands, demonstrations, gymnastics, and dancing classes, but a lack of space forbids the treatment. There were breakfasts, luncheons, dinners, and banquets. There were receptions, both formal and informal, which cannot even be enumerated here. Nobody attended them all. Nobody could go to all the conferences and group meetings which were being held in the labyrinth of rooms in the auditorium, in the university buildings, and in the hotels downtown. The stream of education runs in too many channels to be focused at one point.

It was the president's speech, I believe, which struck the keynote of the convention. This was delivered on Monday evening, directly after a few of the movie stars from Hollywood had been introduced to the teachers. It was the closing address of a long session at the end of a hard day, but Superintendent Sutton's resonant voice carried to every corner of the great hall, his fourfold message of courage and hope.

The first part was a plea for the country schools. Some cities, he pointed out, have surrounded their children with everything by way of education which can enlighten and enrich their lives. But thousands of rural children are going to school in shacks with teachers themselves who often have not learned the things they try to teach.

The second was a plea for a more energetic emphasis on health education. "The happiness of the people is intimately bound to the health and strength of the bodies. Sickness is an unnatural state. To bring children to a better thought and a better habit in keeping well is a field of service which the teachers of America have not yet fully explored."

The third was a statement of the duties of the school to direct children into the use of leisure in a wholesome and innocent way. The average man who lives to be 70 has spent 25 of those years in leisure. The person who grows

up without knowing what to do with an idle hour is poor indeed.

The fourth was a plea that the teachers would carry back to their people the courage to carry on through these discouraging times. "We must teach business," Dr. Sutton said, "that education is the basis of business; for business is founded on the wants of the people, and the wants of the people are directed by the educational forces which mold their character. The barometer of business is the cultural level of the public. To undermine the high level which the schools have reached would be to cut off the very sources of wealth. The troubles of one generation must not become the ruin of the next."

Here we find, in rather eloquent phrasing, the work sheet for the year.

So far as a definite continuity can be traced in a convention of this sort, the themes seemed to revolve about the three major school problems. These are the relation of schools and business, the correlation of the school with all the other educative circumstances in the child's life, and the reform of rural education.

The school as a factor in business and as a production of young people who will work in business and buy the products of industry, has been stressed during the present N.E.A. administration. The theme appeared in a dozen different phases during the general sessions and in the group meetings.

The schoolmen of the country, so far as the best thought in the nation is registered in the affairs of the N.E.A., are coming to the fuller realization that the school is only one of a group of factors which mold and direct the education of modern youth. There has never been any great coöperation between the school and such enterprises as the motion-picture theater, radio broadcasting, and the like. The hope is that school people will be able to harmonize these various elements to a better degree.

To a person coming from the rural sections of the country, the increasing interest in rural education is one of the most encouraging hopes that the 1931 N.E.A. convention set forth. During the past year the Committee on Rural Education, under the direction of Florence Hale, state supervisor of rural schools in



MISS FLORENCE HALE
President of the National Education Association, 1931-32,
and State Supervisor of Rural Schools,
Augusta, Maine

Miss Florence M. Hale, supervisor of rural education in Maine, was unanimously elected president of the National Education Association for the coming year, at the annual convention held in Los Angeles, Calif.

Miss Hale, who was graduated from the State Normal School at Fitchburg, Mass., has also completed postgraduate work at the Hyannis Normal School, and at Columbia and Harvard Universities. She entered the teaching profession as an instructor in the high school at Leominster, Mass., and later became director of training at the Aroostook Normal School at Presque Isle, Me. Since 1916 she has been state director of rural education in Maine. For some time she has been a lecturer on rural education.

Maine, has been mapping out a course of action. A particular effort has been made to interest editors of farm papers in the proposal to better country schools. The report of the committee was presented at the general meeting Tuesday morning. The election of the chairman of this committee to the presidency of the association is a putative promise that the movement will be continued and that it may bear fruit in further positive action.

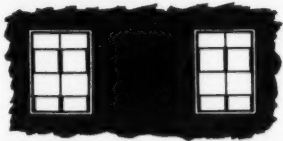
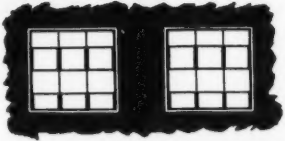
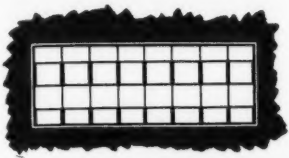
One thing has already been accomplished by the N.E.A. The ugliness of the situation in rural schools has been fully defined. One speaker declared that there could never be a complete democracy so long as the one-room country school remains what it is. Children in the country, it has been pointed out, have to compete in the same industrial world with the city children. Yet thousands of them are growing up without getting the most rudimentary training and with only a passing touch to get them ready for the competition in making a living.

(Concluded on Page 66)



THE COMMERCIAL AND EDUCATIONAL EXHIBITS AT LOS ANGELES AFFORDED PRACTICAL MATERIALS FOR A "SUMMER COURSE" IN EDUCATIONAL EQUIPMENT AND TEACHING AIDS
(Wide World Photo.)

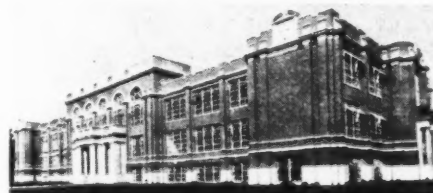
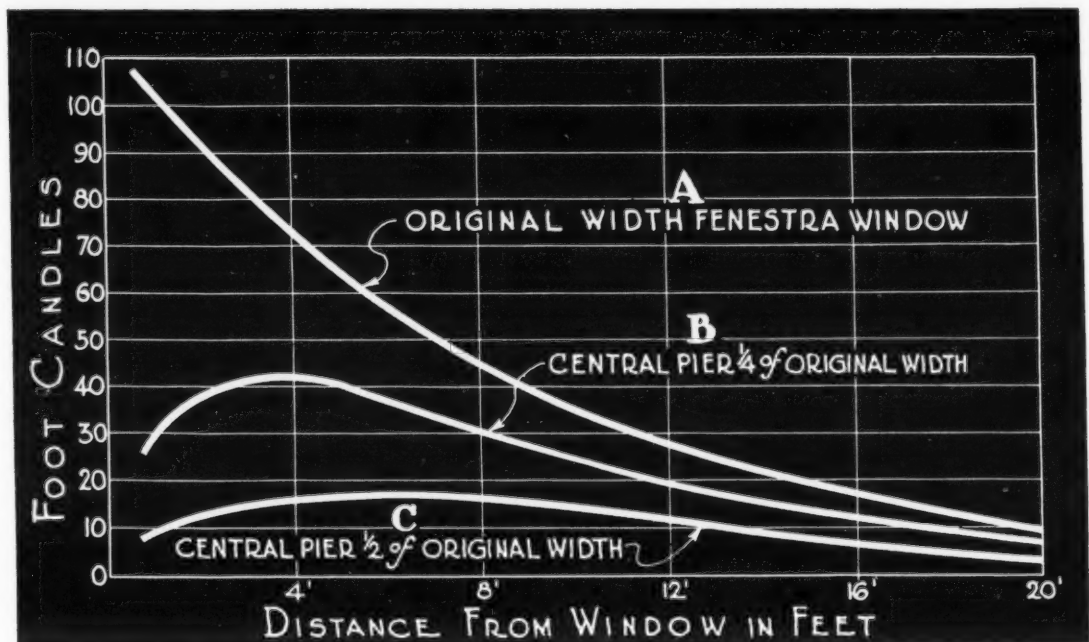
WHAT EVERY SCHOOL MAN SHOULD KNOW ABOUT DAYLIGHTING



EFFECT OF COLUMNS AND PIERS BETWEEN WINDOWS



Safford School, Tucson, Arizona

Hamlin High School, Hamlin, Texas
Architect: Voelcker & Dixon, Wichita Falls, TexasOttawa Hills School, Ottawa Hills, Toledo, O.
Architect: Mills, Rhines, Bellman, NordhoffPietrzycki High School, Dayton, Wash.
Architect: Wm. A. Wells, SpokanePeoria High School, Peoria, Illinois
Architect: Frederick KleinCentral High School, Xenia, Ohio
Architect: Pretzinger & Musselman, DaytonUniversity of Michigan, Ann Arbor, Mich.
Architect: Perkins & Hamilton

That areas of blank wall space, such as those made by columns and piers, considerably reduce the illumination in a school room, is shown by the chart, above.

Suppose the original plans for a school room specify a Fenestra steel window of such dimensions as to provide 10 foot candles of daylight (the minimum recommended requirement) on a desk 20 feet away from the window. Curve A, in chart.

If the original plans are changed, introducing a central pier with a width equal to $\frac{1}{4}$ the original width of the window, then the amount of light on the desk located 20 feet away will be only 7 foot candles — 70% of the minimum requirement. Curve B.

And if the pier assumes a width equal to $\frac{1}{2}$ the original width of the window, the desk will receive only 40% of the minimum light allowance, or 4 foot candles. Curve C.

In each case the reduction in daylighting at the back of the room is proportionately greater than the reduction in window area.

Recommendation: In checking your school plans, observe width of piers, if any. See that

the width of windows is sufficient to provide at least 10 foot candles of daylight on desks at rear of rooms.

Outstanding Advantages of Fenestra "Fenmark" Windows

1. More Daylight—slender steel frames permit more glass area.
2. Maximum Ventilation—up to 100% if desired.
3. Built-in Windguards at the Sill—fresh air ventilation without direct drafts.
4. Maintenance Economy—every outside inch of glass quickly washed from within the room.
5. Glass Replacement Economy—inexpensive replacement of small glass lights when broken.
6. Silent, Finger-touch Operation—non-warping steel construction with bronze hinge bearings.
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8. Beauty—slender lines and fine hardware appointments.
9. Extraordinary Weather-tightness—demonstrated by University of Michigan tests.
10. Erection Service—by the famous Fenestra Construction Company, assuring complete satisfaction.

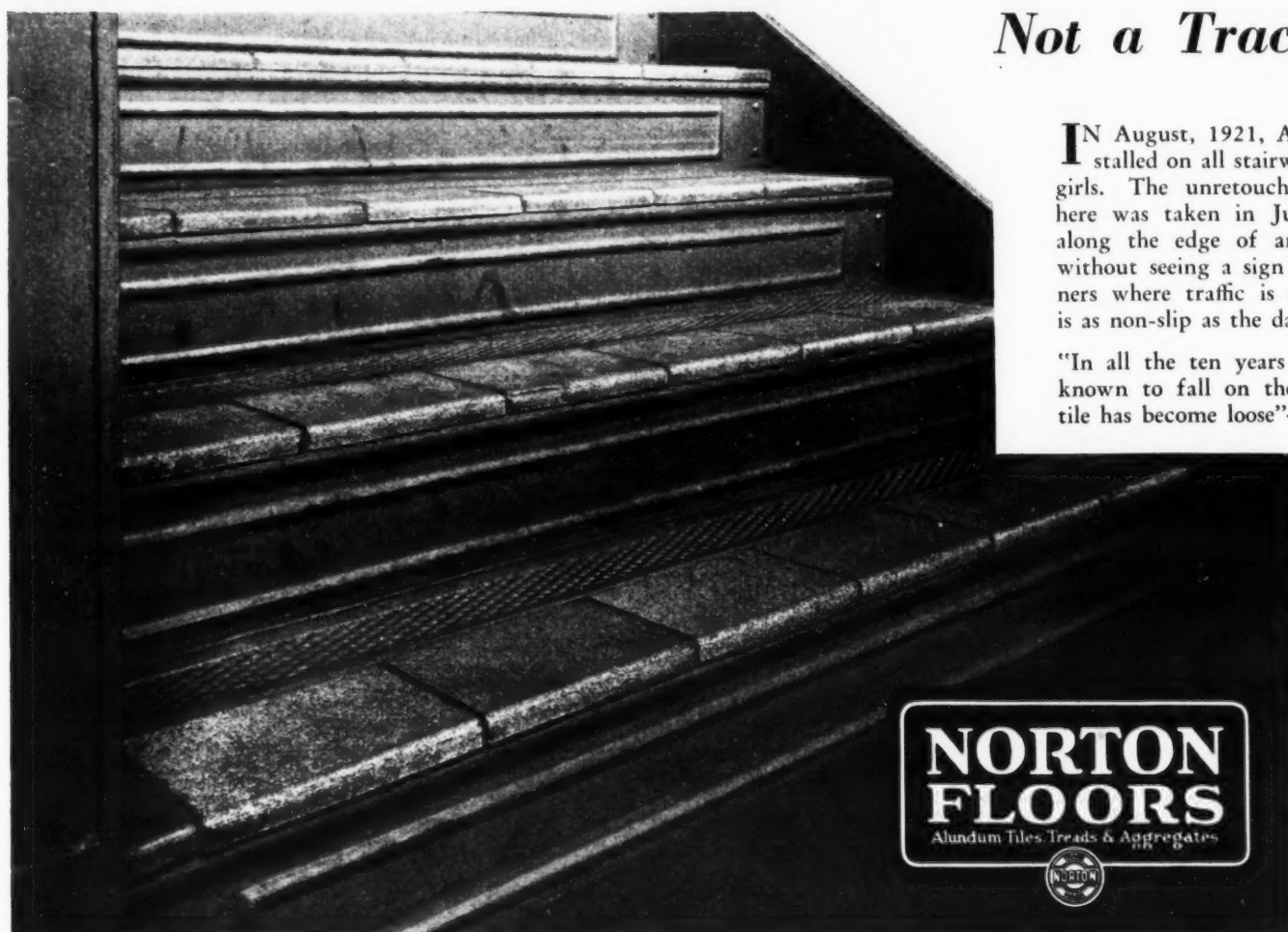
DETROIT STEEL PRODUCTS COMPANY
2282 East Grand Boulevard Detroit, Michigan
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Fenestra

Windows for Scientific School Room Daylighting

Ten Years of Hard Service —

Not a Trace of Wear



IN August, 1921, Alundum Stair Tile was installed on all stairways of this trade school for girls. The unretouched photograph reproduced here was taken in June, 1931. You can sight along the edge of any tread on any stairway without seeing a sign of wear—even at the corners where traffic is concentrated—and the tile is as non-slip as the day it was installed.

"In all the ten years not a single girl has been known to fall on the stairs. And not a single tile has become loose"—the building superintendent's report.

Alundum Stair Tile is truly economical. It gives real protection, permanent protection, and upkeep is practically nil.

NORTON COMPANY
WORCESTER, MASS.

**NORTON
FLOORS**
Alundum Tiles, Treads & Aggregates

T-294

A PERSONAL VIEW OF A GREAT CONVENTION

(Concluded from Page 64)

The conference on rural education was a major feature of the section programs. Over 200 county superintendents and 16 state superintendents attended the rural-school discussion Tuesday afternoon under the grapevine at the San Gabriel mission. The rural teachers' conference in the banquet hall of the Shrine Auditorium was filled to overflowing. The Thursday evening session was devoted entirely to the country school.

As was hinted before, the change of N.E.A. personnel does not promise to alter the policies of the organization to any marked degree. Florence Hale, of Maine, was unopposed for president. Henry Lester Smith was elected treasurer without opposition. Eleven were named vice-presidents. They are:

George W. Wannamaker, superintendent of schools, Griffin, Ga.
W. T. Longshore, principal of the Greenwood school, Kansas City, Mo.
Ernest Butterfield, State Commissioner of Education, Hartford, Conn.
Edith L. Grosvenor, teacher, Washington, D. C.
Sadie M. Alley, Detroit, Mich.
Charles Priest, superintendent of schools, Carson City, Nev.
George C. Baker, superintendent of schools, Morristown, N. J.
J. G. Collicott, superintendent of schools, Columbus, Ohio.
Caroline S. Woodruff, principal of the State Normal School, Castleton, Vt.
Elizabeth McCormick, principal of the Howe school, Superior, Wis.

The resolutions adopted contain a paragraph of appreciation to Superintendent Bouelle of Los Angeles for his work on the local arrangements and to the Boy Scout troops of the city who furnished guides in the session buildings. It was recommended that the schools take part in the celebration of the 200th anniversary of the birth of George Washington. Two national legislative measures were recommended: one was the perennial suggestion of a department of education; the second was that to be a citizen one must be able to read and write in the English language and have a knowledge of the

history and principles of the American government.

The association advocated sound retirement laws, adequate teachers' salaries, and tenure laws which will protect the teacher without preventing her dismissal for incompetency, immorality, or unprofessional conduct.

International teachers' associations were endorsed, also international conferences. The exchange of professors with foreign nations was proposed as a means of promoting international good will.

The association took a strong stand as favoring a vigorous enforcement of the eighteenth amendment and the laws enacted thereunder. It reaffirmed the teachers' stand for law and order. A paragraph was devoted to a plea for better rural education, and the extension of adult education. Stress was laid on the needs of the school for a reasonable share of the radio broadcasting channels.

The names on the general program and in the section meetings would furnish a small edition of "Who's Who in American Education." The list is not that of a group of stars but a galaxy. Incidentally they represent, in the aggregate, millions of dollars in purchasing power, and the commercial educational displays reflect this purchasing power. On the ground floor of the Auditorium there was nearly three quarters of an acre of commercial exhibits. Upstairs there was a space almost as large. It is a liberal education to go through a show like the one the educational publishers and school-equipment manufacturers put on. Their wares consisted of everything used in the schoolroom, from books to lathes.

It would be impossible to report what was said at each session. One speech, however, is deserving of special mention. That was the proposal of Dr. Bagley, of Columbia, to form a teachers' relief.

In his paper Dr. Bagley outlined the research he had conducted on teacher unemployment. He discovered that there were some experienced, capable teachers who were not able to find a school last year. The particular cases which commanded his attention were those teachers who resigned to go back to college for further study and at the close of the term of study could not get back into the teaching field.

The committee, of which Dr. Bagley is head, worked out a plan of relief, whereby contributions from members of the N.E.A. were devoted to discovering employment for these unfortunates. Dr. Bagley expressed the hope that the scope of the work be increased. The suggestion created great interest among the rank and file of the teachers at the convention. Judging by the comments in cloakroom and corridor, it was felt that such a move would express a higher feeling of responsibility of teachers' associations for their members.

One who visits Los Angeles for the first time is continually tempted to wander from the theme of a great convention. Here in Southern California is an enticing mixture of desert and garden, and in this mixture we can read a story of the restless energy of the people. It is an Eden which man has had to build for himself. As a guest of the city, the visiting teacher had the feeling that for the moment he had been drawn into the whirlwind of their enterprises.

The Illinois delegation presented the association with a gavel made of wood taken from Lincoln's home in Illinois. They also gave the association a sounding block of Oregon oak. The pine box which contained these gifts was made from material obtained in Longfellow's Maine residence. The gavel is an emblem of authority and it seemed quite fitting that the safety of Mr. Lincoln's ideal for a government by the people should be intrusted with the teachers of the nation.

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School Consolidation in Arkansas

In response to a questionnaire sent to some 800 or 900 educators in the State of West Virginia, asking them to list the most urgent problems facing school administrators, next to the problem of financing education, they replied that consolidation was the most urgent need of the state.

Preliminary to attacking the problem of consolidation as a project for the bureau of research of West Virginia, Dr. L. V. Cavins, director of the bureau, made a study of the literature available on the subject. From his study he became convinced that the State of Arkansas is at present engaged in the most extensive program of consolidation of any state in the Union. It was apparent that the work in Arkansas is not the work of a single individual or group of individuals. The program is being promoted by the entire state department, the superintendents of the various counties, the county boards of education, and prominent citizens and editors.

Dr. Cavins pointed out that it is difficult to generalize upon the type of consolidation employed. Each county presented some distinctive variation from every other county. In each case the departure from the ideal organization seemed to be warranted because of some peculiarity in the terrain, the roads, the social environment, or the occupational interests of the consolidated center.

The reorganization was not effected in all cases without opposition. At least in the initial stages, some bitter opposition was encountered. In many communities the people seemed reluctant to part with the local school, even though it was only a one-room shanty, taught by an inferior teacher. They were honest in their contention that the children would be better off in the isolated schools. Vast credit is due to the untiring efforts of the county superintendents and the county board members in persuading the school patrons that the interests of the children would be better served in the new organization.

The most interesting part of the program was

the methods used by the state and county officials in overcoming the bitter opposition with which they were confronted. In answer to the question, "How did you overcome objections?" one superintendent reported that he merely showed the people that the grounds upon which their objection was based did not exist. This was verified by the fact that with the completion of the organization, the persons who had raised the objections admitted that their fears were unwarranted. Their ignorance of the advantage of the more favorable environments and better educational conditions is, in most instances, the chief barrier to the necessary changes.

The best example of the effect that one community has upon another community is in Arkansas. The very successful consolidated plan which has been put into operation has acted as an incentive to others to work out a similar plan in their own community. One marvels at the rapidity with which the movement has grown in the past year or two. In fact, the sentiment in favor of better educational conditions has reached a stage where educators are free to make any adjustment under the economic limitations which sound financial judgment justifies. The consolidations which have been made are of such a nature as to win the confidence of school patrons and the hearty approval of the taxpaying public.

The outstanding thing about the consolidation program in Arkansas is the unity of opinion among educators and patrons alike that consolidation is a success. Without this splendid sentiment, the movement could not have progressed so rapidly. Rather conservative estimates based upon a study of more than one third of the counties of the state have led to the conclusion that the school environment of the 300,000 pupils has been vitally changed within the past two years. It has meant a better elementary education for more than half of the school children of the state. It has meant an opportunity for a high-school education to thousands of children who would otherwise

have been without it. In one center alone, there are now 500 high-school students, where last year there were only 180 such pupils. In some instances the consolidation program has doubled the high-school enrollment during the first year.

Taking the state as a whole, Dr. Cavins is convinced that Arkansas presents more and better examples of intelligent, practical, and comprehensive consolidation programs than any other state. Since most states have at this time well-improved highway systems, there seems to be little excuse for not placing modern educational advantages within the reach of every child in America.

STANDARD ELEMENTARY SCHOOLS OF NORTH CAROLINA

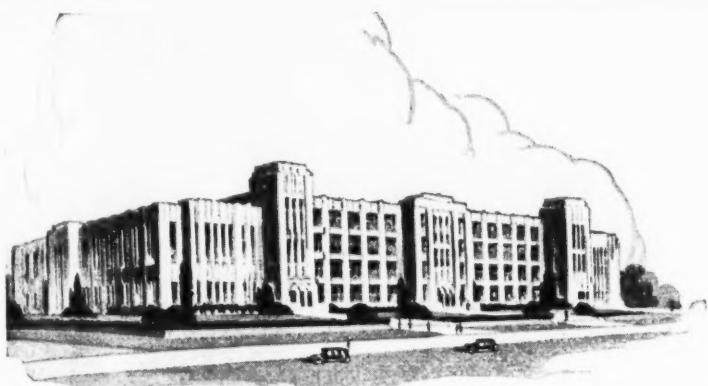
The State Education Department of North Carolina, in a recent statement, reports that there were 393 elementary schools classified as standard at the close of the school year 1929-30, as against 56 in 1924-25.

In 1924, when the work of visiting the schools and applying standards was begun, there were 270 rural schools and 185 charter schools, with 7 or more teachers and an eight months' term. Today, there are 440 rural schools and 194 charter schools meeting these requirements, or a total of 634 schools.

Of the 455 schools meeting the term and teacher conditions of standardization in 1924-25, only 56 were actually accredited. The past year 393 of the 634 schools were placed on the accredited list.

The report shows that the training of teachers in the elementary schools has improved at a rapid rate. In 1924 there were only 62 large rural schools and 94 charter schools in which all teachers had at least one year of college or normal-school training. In 1929-30, there were 406 rural and 185 charter schools, or a total of 591 schools employing teachers with the required training.

At present there are 102,954 rural children and 82,109 charter-school children in standard schools, 36.6 per cent of the total elementary-school enrollment.



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No Other Communication Approaches the Convenience of P-A-X!

There is no substitute for P-A-X among communication systems available to schools. No other system gives public telephone-type service or is made of the same highest-quality equipment (the company that makes P-A-X makes public dial telephone systems).

Any school has conveniently available on request and without cost the consultation services of a P-A-X engineer. Write, telling us when it is convenient for you to receive our representative. Or, request Circular 1527, "Strowger P-A-X in Schools."

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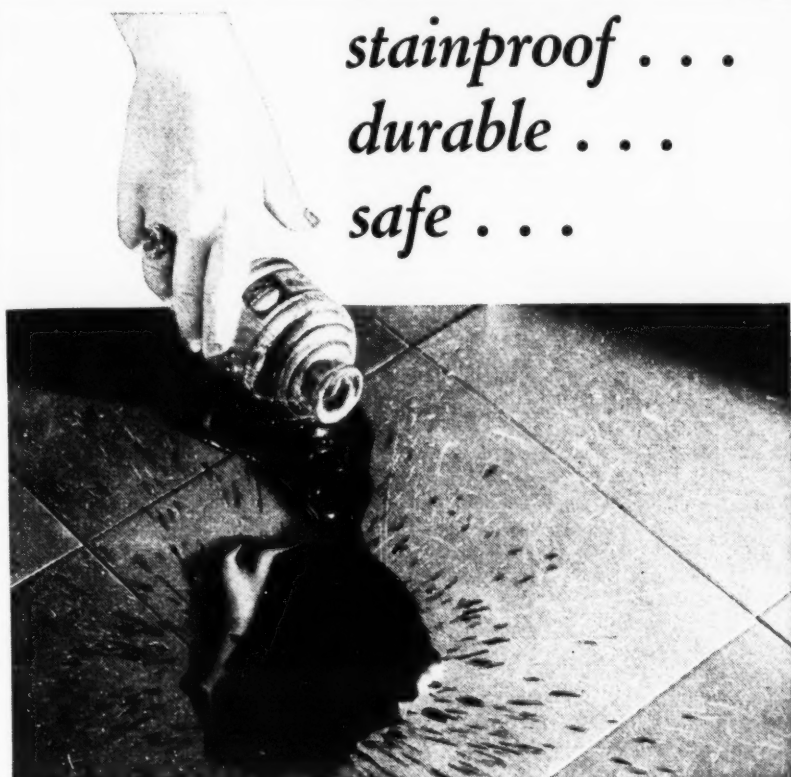
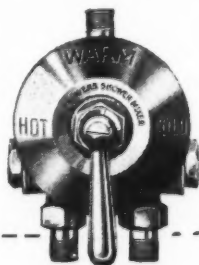
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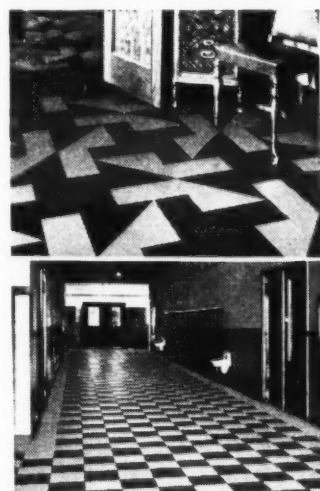
No wonder this modern school floor *lasts longer . . . costs less*

IF "Made to Combat Carelessness" were stamped on every tile, it would truly describe Johns-Manville Tile Flooring. This long-wearing floor will stand years of abuse that ruins the appearance of an ordinary flooring in a few weeks.

Mud and water tracked in on rainy days will not mar its surface . . . inks and the ordinary acids can be wiped off without leaving a trace . . . it can be washed and cleaned year after year without losing its lustre.

No one will be injured by slipping on this floor. In classrooms and corridors, in school cafeterias and administrative offices, Johns-Manville Tile Flooring is quiet, comfortable and safe underfoot whether

wet or dry. Its resiliency takes the noise out of hard heels and hurrying footsteps. Its decorative and pleasing appearance harmonizes with any school interior. Its colors do not fade.

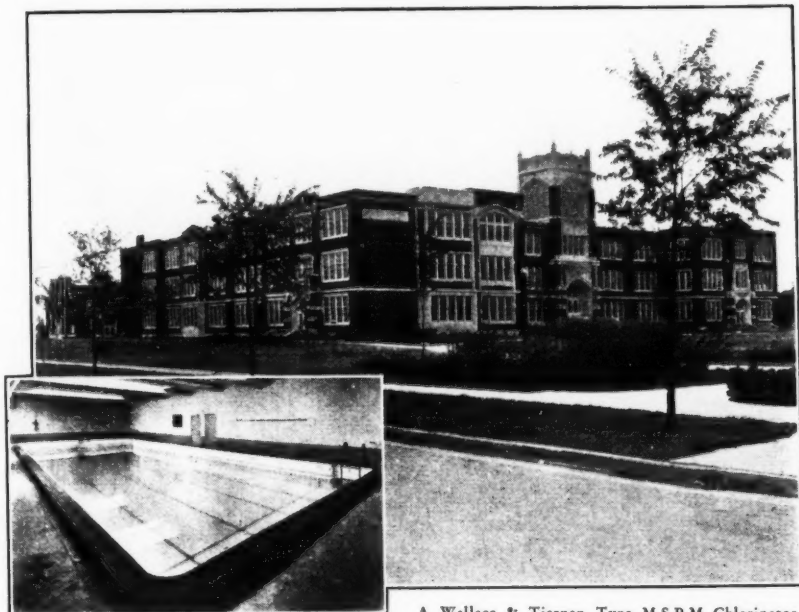


Always dignified, cheerful and attractive in appearance, Johns-Manville Tile Flooring is available in a variety of colors and with tiles both oblong and square.

Johns-Manville TYPE A Tile Flooring

We will gladly supply complete information on this economical school flooring. Free booklet—"Johns-Manville Tile Flooring Type A" will be sent to you promptly. Either call the Johns-Manville local distributor or address Johns-Manville, 292 Madison Ave., New York.

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Because W&T chlorinators are built to scientific correctness, users everywhere expect and receive dependable chlorination at low cost.

Technical publication 41 is information about the sanitation of swimming pools. A copy will be sent to any address on request.

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CHICAGO CORRESPONDENCE

The Chicago board of education is in "hot water." In the April mayoralty election, Anton J. Cermak, Democrat, was elected to succeed William Hale Thompson, Republican incumbent. The new mayor has appointed two of the eleven members of the school board but the other nine were appointed by his predecessor. Theoretically the board of education is independent of the local city administration, except that the mayor nominates the trustees, and the city council confirms their appointment for fixed terms of five years. Practically, it has always proved true that the school trustees are not independent of the mayor. In at least one instance in the past, it was discovered that prior to their appointment, the trustees had signed undated resignations which were retained by the mayor. The newspapers are demanding that the Thompson-appointed trustees resign. It is alleged that Mayor Cermak has asked for their resignations, although the trustees deny this. The newspapers are constantly panning the board-of-education members on almost every move they make.

After severe criticism in the press for alleged extravagance in the past operation of the schools, the board of education employed a firm of accountants to make a school survey to show where economies might be made. In three and one half weeks, the accountants made a report, which was secretly criticized. The mayor called it a "white-wash." The teachers and the newspapers were critical because most of the savings and economies recommended were at the expense of the instructional department, instead of the business department. The trustees called it incomplete and decided to have the job finished, but to call in some educational experts to supplement the survey staff of the accountants.

The board of education is unable to meet its payrolls. Teachers and other employees have not been paid since last April, and the board owes approximately \$10,000,000 in back salaries. There seems to be no prospect of immediate relief. The banks have refused to buy the 1931 tax-anticipa-

tion warrants so the board of education has issued participation certificates, popularly called "scrip," in lieu of cash. Teachers may at their option accept these participation certificates, payable when the 1931 tax-anticipation warrants are sold, or when the 1931 taxes are collected. These certificates will bear 6 per cent interest. However, the teachers object to scrip and complain that they will have to discount them heavily to loan sharks because the banks will not accept it and the retail merchants' association has taken a stand against accepting it. At first the mayor refused to sign the tax warrants on which the participation certificates are to be issued. When informed by the corporation counsel that his signature is mandatory, he signed as a ministerial officer but accompanied the signed warrant with a letter denouncing the issuance of scrip as probably illegal, misleading to teachers, and likely to injure the credit of the city and perhaps reduce the value of anticipation warrants already outstanding.

Faced by the prospect of a huge deficit at the end of the year (even if the 1931 tax-anticipation warrants can be sold), the board has indicated that it will make some drastic retrenchments. It is proposed to compel the teachers to take a forced vacation of a few days just prior to the Christmas holidays without pay, and to add two more pupils to each classroom, along with other minor reductions in staffs. Civic leaders and teachers are up

in arms against the suggestions. Chicago already has the largest-sized classes of any city in America. The teachers have passed a resolution against "unwise economies," pointing out that the school board's proposed savings provide for \$1,340,000 retrenchment in the educational department and only \$24,760 in the business department. Yet, according to the leader of the teachers, "Practically all of the past criticism has been directed at the business department and the purveying of jobs to politicians." In an interview, the mayor stated that the cost of school-plant operation in Chicago (janitors' salaries and school-plant supplies) is \$17.49 per pupil, while it amounts to only \$8.82 per pupil in New York City. The report of the accountants' survey showed an increase of 88 per cent in the expense of operation and maintenance of plant during the past five years, but an increase in instructional costs of only 20 per cent.

Although unable to pay the contractors for work now in progress (about \$15,000,000 of new school buildings now under construction), the school board has let a contract for a \$1,750,000 junior-high-school building to be known as the Wells Junior High School. It will be a four-story structure, with 37 classrooms, and a 2,700-pupil capacity. It is being constructed at approximately 15 per cent less per pupil cost than the last two junior-high-school buildings.



WELLS JUNIOR HIGH SCHOOL, CHICAGO, ILLINOIS
Paul Gerhardt, Architect, Chicago, Illinois

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COMBATING PROPAGANDA IN SCHOOLS

Modern publicity methods have increased the amount of propaganda received by public and private schools, and educators have frequently considered ways and means of distinguishing between propaganda which may be accepted for use and that which must be rejected because it interferes with the proper ends of education or involves other objectionable features.

The character and extent of propaganda foisted upon the schools has been the subject of a study by a committee of Wisconsin educators, who examined the problem during the year 1929. More recently, a committee of schoolmen representing the Michigan State Teachers' Association, has studied the distinction between legitimate and desirable advertising in the schools and propaganda which should be discouraged. The Michigan committee, which based its study on the Wisconsin study, has made the following recommendations:

"1. It is doubtful if advertising through the schools is justified at any time or for any purpose. Every community has legitimate advertising media. The school is not one of them. Concerns that seek to secure free advertising through the schools should be referred to newspapers and magazines which have advertising space for sale. A rule against all advertising, made by the board of education, would save superintendents, principals, and teachers from much embarrassment and also protect the children.

"2. It is doubtful if the sale of goods or the collection of funds through the schools can ever be justified. This does not refer to school-operated book and stationery stands, or to school cafeterias which are run primarily to make the school more efficient. It does refer to the sales of penny pocket seeds, gelatin, pencils, and magazines. Every community has legitimate retail institutions, and the school is not in competition with them.

"3. The collection of funds for worthy charities is argued for on the grounds that pupils learn to have sympathy for the less fortunate and to make them (the pupils) less selfish. These lessons can, no doubt, better be brought before the children through good turns done for others by giving help to cases where distress may be observed first

hand. To give a few cents that have been begged from the parent to be sent to someone several thousand miles away does not make an impressive lesson in charity. Long-distance relief is best handled by adults.

"4. Should all teaching aids from commercial sources be rejected? By no means. Some of the material, properly handled by the teacher, is valuable supplementary or source material. The teacher should, by all means, study every side of every question. She should have absolute freedom of study. We wish to distinguish clearly between source material and material designed to control the acts and ideas of students. With the proper emphasis much of the objectionable propaganda effect may be nullified. More and more usable material is being distributed each year.

"5. The committee recommends that superintendents petition their boards of education to pass definite rules relative to advertising, soliciting, selling, collecting, and other forms of propaganda in the schools. The teacher should be fortified with a printed copy of these rules at all times.

"6. The committee recommends, further, that each local school system create a standing committee on propaganda to which teachers, principals, and superintendents may turn for guidance. This committee should establish principles and policies to guide it in its work, ever keeping in mind that the welfare of children is the primary function of a public school and that it is the only legitimate basis for the acceptance or rejection of material offered for school use."

SCALE FOR RATING TEACHERS

"It is generally understood that to do effective work one must have a thorough knowledge of the teachers' work based upon extensive observation and constructive supervision," says a report made by a committee of teachers of the LaFayette School, Chicago, Ill., and adds: "Yet teachers are all too frequently rated on very incomplete information."

The committee formulated a list of detailed classifications which are arranged in five main divisions, namely, (1) instructive qualifications, (2) professional aspirations and opinions, (3) per-

sonal qualifications, (4) general practice, (5) achievements. The distributive qualifications are designated under four headings, excellent, good, fair, and poor. The list of main ratings and their respective subdivisions are arranged in the following order:

1. Instructive Qualifications: (a) aims, (b) planning or scheduling, (c) motivation, (d) skill, (e) tact, (f) adaptability. 2. Professional Aspirations and Opinions: (a) coöperation, (b) social intelligence and loyalty, (c) originality, (d) progressiveness, (e) information, (f) contribution to education. 3. Personal Qualifications: (a) health and effect on attendance, (b) personal appearance, (c) disposition, (d) manners, (e) speech. 4. General Practice: (a) consideration of pupils' welfare, (b) hygienic conditions, (c) supplies and equipment, (d) thrift, (e) punctuality, (f) routine. 5. Achievement: (a) scholastic, (b) social.

STUDY PROGRAM FOR TEACHERS

Improvement of teachers in service has been developed in Nelsonville, Ohio, by means of conferences and special studies led by Supt. H. E. Yuber. At the beginning of the school year 1930-31, a list of leading current problems in education was presented to the teachers, and nine topics were selected for discussion at the monthly staff meetings.

Under the arrangement, the teachers were requested to develop the plan of carrying on the studies and to select committees for study assignments. Five or six teachers were appointed to each committee so that each teacher would have a part in the undertaking. The plan worked out successfully, and the program proved very worth while for teachers in the schools.

Among the subjects treated at the conferences were public relations, school codes, codes of ethics for teachers, school records and reports, and disciplinary problems.

♦ Piqua, Ohio. The school board has effected a saving of \$16,000 in the budget for the next year. The board has asked for an advance of \$30,000 from the tax receipts to meet the current expenses.

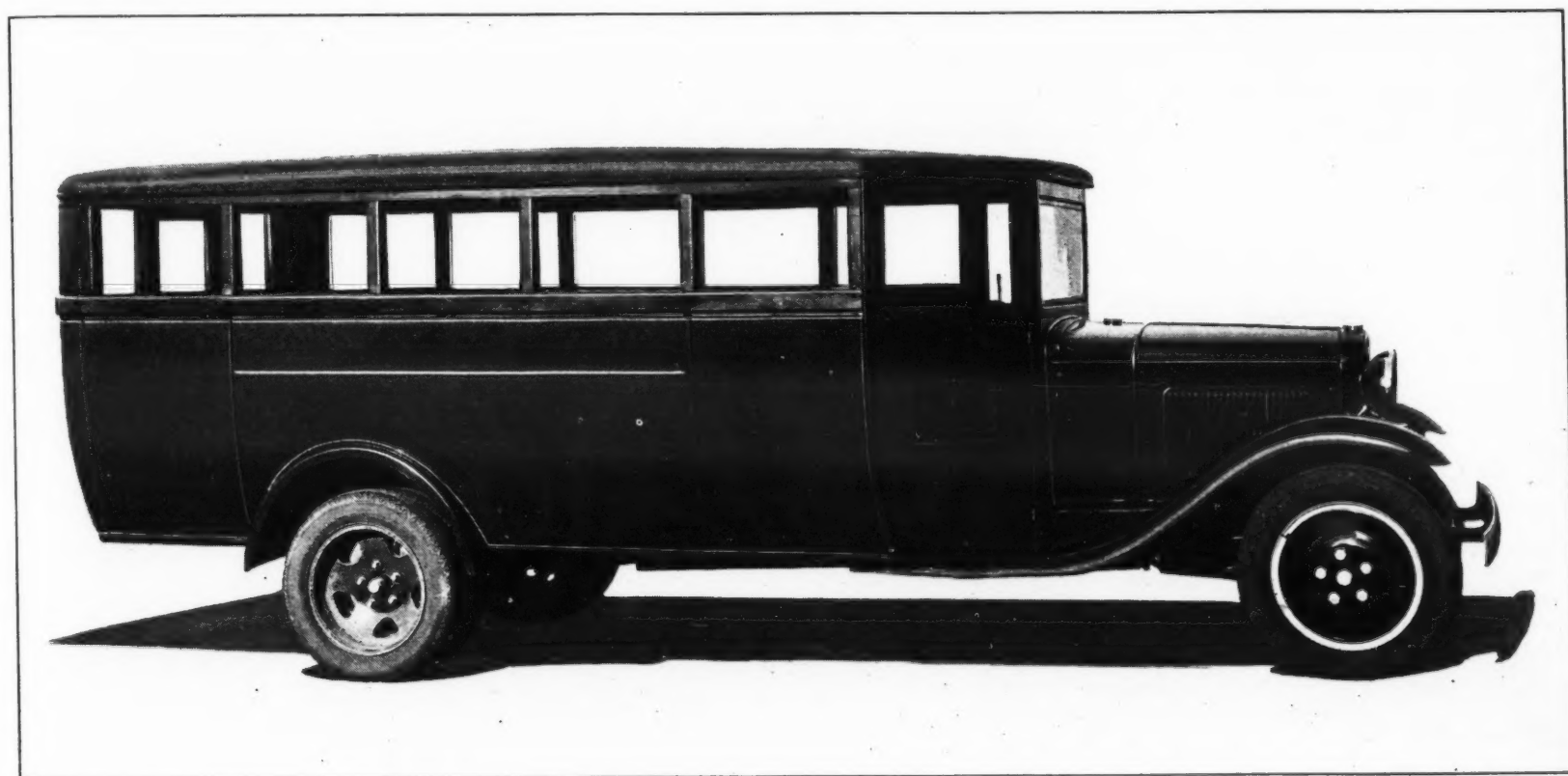
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for the safe and economical transportation
of children



THE Ford school bus is the result of a careful study of the safety and health factors in the transportation of children. Safety glass, elimination of motor fumes, steel construction, regulating windows, 3-door exit, comfortable seating arrangement—all

these vital factors have been incorporated into this Ford unit.

When considering applications from bus operators, it will be well to keep in mind the high degree of safety and economy offered by the Ford school bus.

F E A T U R E S

Safety glass is standard equipment throughout the entire body.

Six of the fifteen windows are of the regulating type, offering excellent ventilation.

Full-length exhaust pipe carries motor fumes to the rear, so that dangerous gases cannot leak into the body.

Three doors assure easy loading and rapid exit.

The seating arrangement provides highly comfortable

accommodations for thirty-two children and the driver.

Steel construction throughout contributes to safety, strength and long life.

The Ford school bus is designed for the Ford 1½-ton truck chassis with 157-inch wheelbase. This assures a strong, rugged and reliable underbody construction.

Any Ford dealer will gladly demonstrate this unit.



Washington Correspondence

A. C. Monahan, formerly U. S. Bureau of Education

Board of Consultants, National Survey of School Finance

A Board of Consultants has been appointed to advise the Commissioner of Education and the associate director of the National Survey of School Finance which has been undertaken by the U. S. Office of Education in accordance with a recent act of Congress. It is composed of the following men:

Supt. Albert S. Cook, Baltimore, Md.
Supt. N. R. Crozier, Dallas, Tex.
Supt. O. C. Pratt, Spokane, Wash.
W. G. Carr, Director of Research, National Education Association, Washington, D. C.
Pres. L. D. Coffman, University of Minnesota, Minneapolis, Minn.
Prof. G. D. Strayer, Columbia University, New York City.
Prof. F. H. Swift, University of California, Berkeley, Calif.
Prof. Henry Morrison, University of Chicago, Chicago, Ill.
Prof. F. P. Fairchild, Yale University, New Haven, Conn.
Prof. R. M. Haig, Columbia University, New York City.
Prof. H. L. Lutz, Princeton University, Princeton, N. J.
Prof. A. N. Holcombe, Harvard University, Cambridge, Mass.
Roland Vandegrift, State Dept. of Finance, San Francisco, Calif.
F. M. McWhirter, President Peoples State Bank, Indianapolis, Ind.
Mark Graves, Tax Commissioner of New York State, Albany, N. Y.
Fred Morrison, State Tax Commissioner, Raleigh, N. C.
L. F. Loree, President, Delaware Railroad.

Dr. W. J. Cooper, U. S. Commissioner of Education, is the director, with Dr. Paul R. Mort, director of the school of education of Teachers College, Columbia University, as associate director. Mr. Timon Covert, specialist in school finance of the Office of Education staff, is secretary and coordinator of the survey. A number of school and college men have been given temporary appointments as assistants in the work, which will require four years for its completion. The survey will concern itself with all forms of education being supported in whole or in part from public funds, and Congress has authorized an expenditure of \$350,000, with \$50,000 for the fiscal year which began on July 1.

Free Textbooks for Washington Night-School Students Debarred

Free textbooks will not be furnished students in the night schools by the District of Columbia as a result of a recent decision of the corporation counsel, who was asked to pass upon the legality of the proposal. The question of free books for night-school students was raised when the board of education asked Congress to include in the appropriation for the coming fiscal year the amount of \$50,000 to purchase books for this purpose.

In his report the corporation counsel gave two reasons for his decision against the furnishing of free books to night-school students. First, he found nothing in the act itself that referred to free books for anyone but regular high-school pupils, and second, that in the discussions at the hearings on the bill before Congress no mention was made of night-school students in any way. Furthermore, the purpose of the measure was to relieve needy parents of the expense of purchasing books. The corporation counsel in his decision held in effect, that night-school students are adults and minors who are working in the daytime, who are, therefore, not a burden on needy parents and are able to buy their own textbooks and school supplies.

Government Publications on Education

A complete list of government publications on education issued by the various departments and offices, is available for the first time. It is contained in a bulletin of the U. S. Office of Education entitled *United States Publications on Educa-*

tion, which gives the titles, prices, and a few words relative to the contents, of 1,000 bulletins. Most of them were prepared and published by the Office of Education, the Federal Board for Vocational Education, or the U. S. Department of Agriculture.

School Directory of District of Columbia

A directory of educational institutions in the District of Columbia has been prepared and will be published by the District Chamber of Commerce. It contains the names and locations of public schools in the Washington public-school system, also information for private and parochial schools, colleges, universities, and special schools, and includes those in Maryland and Virginia under private control which accommodate District students primarily. Altogether over 300 institutions with an enrollment of over 50,000 students are listed.

Visual Education Tested

A test of visual education has been begun by one of the firms preparing educational talking films, with 96 children from 46 different states. The children were selected by the state departments of education from those completing the eighth grade this year. One elementary-school teacher accompanied the children to Washington, the expenses being met by the company. The tests were made under the auspices of the U. S. Office of Education and a special committee of educators selected by the Office.

The children, together with their teachers and invited guests, viewed the films, one at a time. Before seeing each film they were given an examination on the subject to be shown to determine their knowledge of it. After the showing they were given another examination to see what they had learned from the film and the talk accompanying it. The first film shown was on "glaciers," showing an instructor at a blackboard telling his audience about glaciers and illustrating his talk with crayon drawings. Then the picture changed to an actual scene of an Alaska glacier with the sounds of its breaking and moving reproduced.

Rural-School Improvement

In connection with a plan of focusing attention on the needs of improved rural schools fostered by the U. S. Office of Education and the National Education Association jointly, certain data collected by Walter H. Gaumnitz, senior specialist in rural education of the U. S. Office, will be used. These data which will be shortly published, have to do with the training, experience, and salaries of rural teachers, since the teacher is the principal factor in the efficiency of a school. There are approximately 153,300 one-room rural schools in the United States. This is a decrease of 60,000 since 1910, the decrease being due to the establishment of consolidated rural schools, and in small measure to the growth in attendance.

The study shows that in the 60,854 one-room schools for white children, 5,277 of the teachers have one year or less than one year of education beyond the eighth grade; 3,486, two years or less; 2,530, three years or less; and 15,550, four years or less. This means that practically 44 per cent of them have not more than a high-school education, 8½ per cent having one year or less. The number having more education than the high-school course shows the largest group to have one year or less, making the median number of years of schooling for the entire 60,854 teachers only 1.6 months beyond high-school graduation.

The salaries paid show interesting figures. The median salary paid to one-room school teachers in the white schools is \$883, and in Negro schools, \$314. The average paid white teachers in the states with colored schools is considerably lower than the figure given above as the median for all white schools. In the consolidated schools for

Indexes of Building Materials and Construction Costs

Year and Month	Building Materials		Construction Costs			
	Frame	Brick	Frame	Brick—Wood	Brick—Steel	Reinforced Concrete
1913 Average	100	100	100	100	100	100
1920 Average	269	284	257	264
1923 Average	207	209	209	219	212	210
1926 Average	195	195	204	213	199	201
1929 Average	177	182	204	214	197	201
1929 December	177	181	204	214	197	201
1930 June	175	179	198	212	193	198
1930 December	168	174	182	196	179	184
1931 April	163	170	178	192	178	181



FRANK E. ALLEN
Superintendent of Schools,
South Bend, Indiana.

The board of education of South Bend, Indiana, elected Frank E. Allen, of Muncie, Indiana, as the successor to Supt. W. S. Borden. Mr. Allen is the choice among a large list of W. W. Borden. Mr. Allen is the choice among a large list of Borden's resignation was given considerable publicity throughout the state. The board of education, headed by President Dugdale, extended its search for a superintendent over a wide range and made its selection with discriminating care. Mr. Allen is an experienced educator who stands high among his Indiana associates.

white children the median salary is \$1,060, and in all types of rural schools, it is \$945. The corresponding figures for colored schools are \$605 and \$388 respectively. The average term of the one-room school is 152 days, or 7½ school months. The average enrollment is 22 pupils of all elementary-school ages.

Director of Research, National Education Association

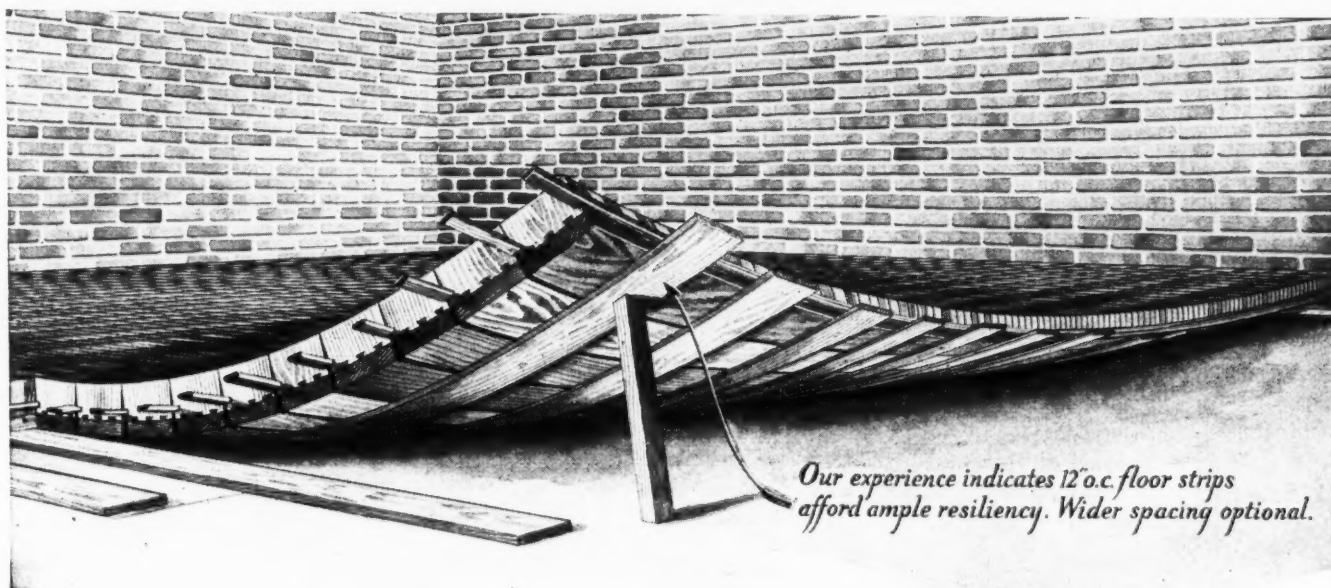
William G. Carr, for the past two years assistant director of the division of research of the National Education Association, has been appointed director to fill the vacancy caused by the resignation of Dr. J. K. Norton. Dr. Norton has gone to Teachers College, Columbia University, as professor of education. He had been with the N.E.A. since the department was first organized.

Department of Superintendence Meeting, Feb. 20-25, 1932

An unusual feature at this meeting, is the separation of the exhibit hall from the places of meetings. This is necessary because Washington has no auditorium large enough to accommodate both under one roof. The Washington Auditorium, in which the meetings and exhibits were held the last time the meeting was in the city, will be used at the next meeting entirely for registration and exhibits. The general meetings will be held in Continental Memorial Hall, two blocks away, and the sectional meetings will be held in a number of halls within easy walking distance.

The Trend in Building Costs

The figures below show the trend in building costs in the United States. They are taken from a compilation made from various sources by the U. S. Bureau of Standards and the Division of Building and Housing, and include figures taken by the bureau from the *Engineering News Record*, the American Appraisal Co., the Associated General Contractors of America, and the National Board of Underwriters.



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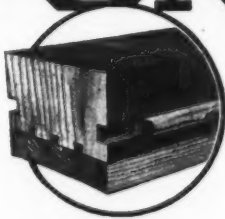
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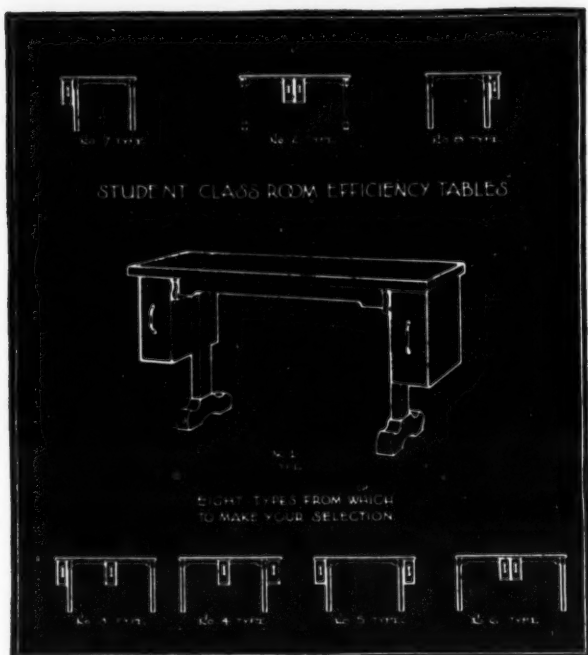
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Teachers' Salaries

FORDSON ADOPTS UNIT SALARY SCHEDULE

The Fordson School District at Dearborn, Mich., has adopted a unit salary schedule for all teachers from the kindergarten to the high school. The schedule recognizes that the teaching of men and women in the corps is of equal importance from the standpoint of the community without regard to grade or position. The only differences recognized by the schedule are those which directly affect the quality of the teacher's work; namely, her preparation, her experience, and her efficiency rating. The schedule is intended to give every teacher an equal opportunity to be credited for worth-while service.

The schedule puts each teacher on her own merit and entirely removes the possibility of teachers in one department thinking that there are superior teachers in another department. It makes it possible for a teacher to feel more of a contentment in the line of work for which she might best be fitted to perform.

Another worthy part of the schedule is fixing a standard rating to which all teachers must qualify or be automatically dropped and at the same time there is an encouragement for teachers to improve by obtaining a higher degree and raising their yearly rating.

Teachers' Salary Schedule

Minimum, without experience, three years of training, \$1,200; minimum, without experience, four years of training, \$1,300; minimum, no experience, five years of training, \$1,400.

Teachers who claim three years of training must possess a Michigan life certificate; those with four years of training, bachelor's degree and the certificate; five years of training, a master's degree and the life certificate.

Applicants for the junior and senior high schools must have a degree from a reputable college, unless they are to engage in special work.

Experience may be evaluated to the amount of

\$50 per year but not to exceed \$300 above the basic salary.

The maximum of \$2,000 is reached after annual advances of \$75, with an A or B rating and three years of training.

The maximum of \$2,300 is reached with annual increases of \$75 for those with an A or B rating and four years of training.

The maximum of \$2,500, annual increase \$75, with an A or B rating and five years of training.

Teachers who receive a C rating will be given an annual increase of \$50. Any teacher with less than a C rating at, or after, the close of the school year 1931-32, will be automatically dropped.

Beginning teachers will be employed on a probationary period of one year.

Key teachers, group chairmen, and study-hall counselors will reach a maximum of \$3,000 with annual advances of \$75. Key teachers are those of exceptional merit who are so designated upon recognition by the superintendent and an affirmative vote of the board of education.

Teachers who have an unused sick leave may, at the end of five years or more, take a vacation with pay, provided that not more than three teachers are absent from any one building at one time.

Schedule of Principals

Principals of elementary schools and directors of special subjects, minimum \$2,500, in schools of less than 650 enrollment. The minimum is \$2,800 in schools of more than 649 enrollment. A bachelor of arts degree is required in either case. The annual increase is \$100 to the maximum of \$3,500 in schools of 649 enrollment, and \$4,000 in larger schools.

Junior high schools, minimum salary \$3,000, annual increase \$150, to the maximum of \$4,500. A master of arts degree is required.

Senior high schools, minimum to be the same as received by the highest-paid junior-high-school principal, with an annual advance of \$150, to the maximum of \$5,500. A master of arts degree is required.

Clerks in elementary schools, minimum \$850, with annual advance of \$50, to the maximum of

\$1,200. Clerks who are responsible for records and filing of the same, and who do secretarial work may have the minimum salary fixed at \$1,200, and the maximum at \$1,600 to \$2,000, depending upon their training and assignment.

The salary schedule is a basis for future study and the board of education does not intend that the annual increment or maximum shall remain fixed. The board had in mind the possibility of agreeing on a schedule which could be followed out in this time of depression, and the intention of the board is to abide by a schedule from now on and to make it possible for each teacher to know just her status as to her position on the staff.

TEACHERS' SALARIES

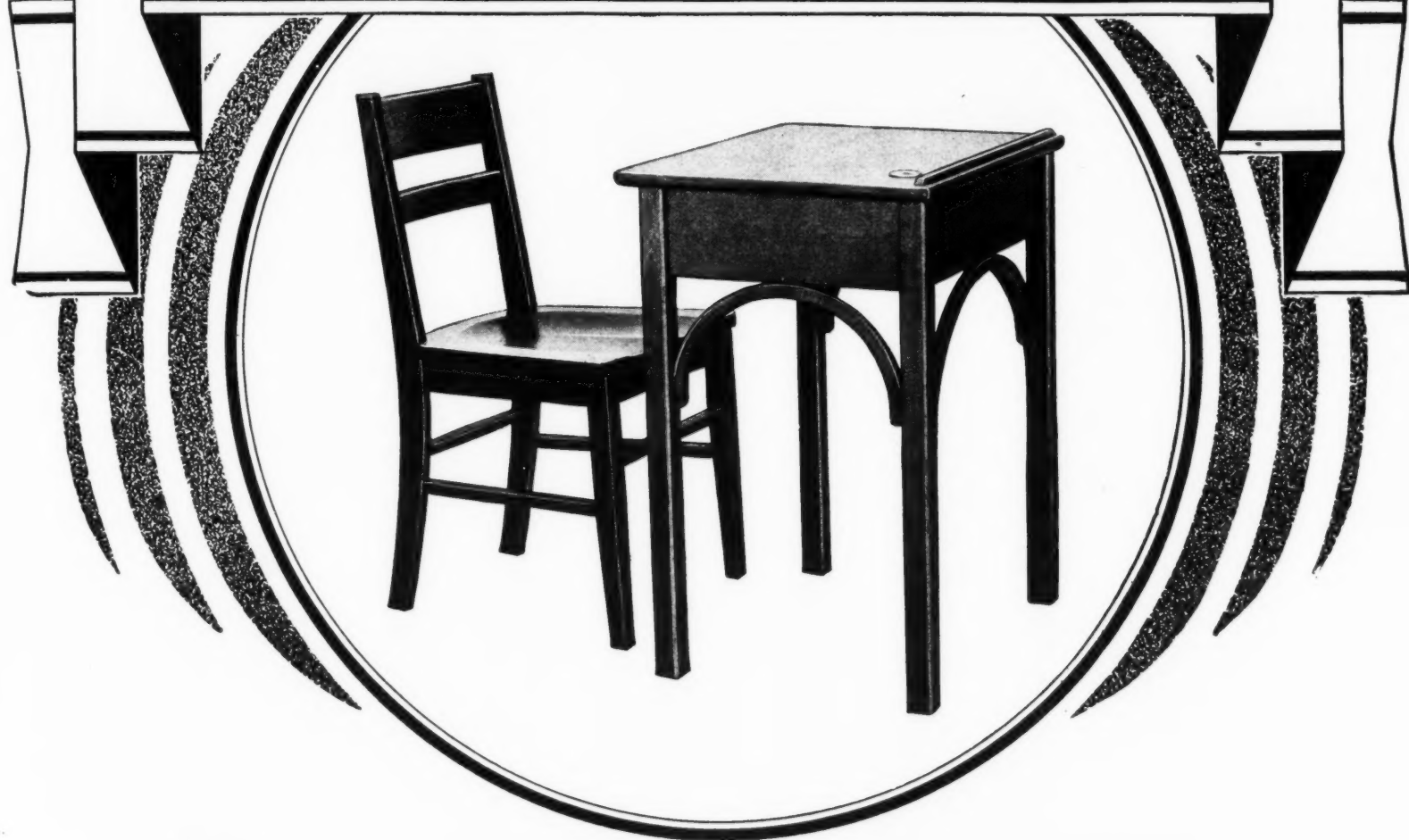
♦ Momence, Ill. The school board has re-appointed the teaching staff, at the same salaries as last year.

♦ Woburn, Mass. The school board has voted to raise the maximum of men's salaries in the high school from \$2,000 to \$2,500 per annum.

♦ Marion, Ind. Tax receipts exceeding \$3,000 have improved the financial situation in which the teachers have accepted a suspended salary schedule. Supt. E. E. Day has intimated that the regular salary schedule may be restored after next year. The salary suspensions were ordered a short time ago when the school board discovered that it faced a deficit unless expenses were curtailed.

♦ San Francisco, Calif. With the decision to pay 2,800 teachers approximately \$600,000 during the next two years to settle court awards for back pay, the school board has taken steps to recover \$150,000 the teachers are supposed to owe the city. Supt. J. M. Gwinn has been ordered to take over the task of collecting \$11,000 which it is claimed some 500 teachers have been overpaid in the past. Members of the board have agreed that it will be difficult, if not impossible, to collect from the teachers and have decided on a plan of appealing by letter to the conscience and civic pride of the teachers. An attempt to bring suit was abandoned when it was shown that, under the state law, teachers are more or less judgment proof.

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THOSE educators who seek attractiveness, flexibility, and efficiency in the classroom will approve this modern desk set by Heywood-Wakefield. It is an all wood desk set similar in design to the type which many pupils will use upon entering business careers; a desk that permits flexible seating arrangements and one which assures easy and thorough sweeping and cleaning of the classroom.

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School Law

School Lands and Funds

A parochial school is no part of the "public-school" system of the state.—Hlebanja v. Brewe, 236 Northwestern reporter 296, S. Dak.

A board of public instruction may rescind a resolution predicated on a false impression or misrepresentation, when a resolution involves the security of school funds (Florida general laws of 1927, § 2405).—Therrell v. Flier, 133 Southern reporter 861, Fla.

School-District Government

A county superintendent is a "county officer" (Ga. civil code of 1910, § 258, subd. 7).—Bower v. Avery, 158 Southeastern reporter 10, Ga.

A board of public instruction should not assume authority, when the right to exercise thereof is doubtful (Florida complete general laws of 1927, § 561).—Harvey v. Board of Public Instruction for Sarasota County, 133 Southern reporter 868, Fla.

A county board of education is vested with broad discretion in exercising statutory powers.—Brown v. Bailey, 37 Southwestern reporter (2d) 58, 238 Ky. 287

The discretion of a county board of education in exercising statutory powers will not be interfered with unless abused.—Brown v. Bailey, 37 Southwestern reporter (2d) 58, Ky.

The primary obligation of a school board to maintain the schools in a district is not discharged by merely paying to the parents of school children a sum in lieu of the cost of keeping the school open (S. Dak. revised laws of 1919, § 7485, as amended by the laws of 1923, c. 170; § 7490, as amended by the laws of 1921, c. 214).—Hlebanja v. Brewe, 236 Northwestern reporter 296, S. Dak.

The majority vote of a majority of a board of school directors duly recorded, showing how each member voted, is required to fix a teacher's salary (24 P. S. § 334).—Parnell v. School Board of Clymer Borough, 99 Pa. Superior Court 281.

The members of a board of education are held not individually liable for injuries resulting from the negligent installation or maintenance of a "tackling dummy" upon the school campus (Calif. Pol. Code, § 1623).—Mitchell v. Hartman, 297 Pacific reporter 77, Calif. App.

A school-district treasurer, himself selecting a depository because not designated, is not liable for loss because of the depository's insolvency, if acting in good faith and with due prudence (S. Dak. revised laws of 1919, § 7461).—Thunder Hawk School Dist. No. 8 v. Western Surety Co., 235 Northwestern reporter 921, S. Dak.

School-District Property

A board of public instruction is held without authority to convey any portion of a school property to the United States, without consideration for use in the erection of a post office building (Fla. complete general laws of 1927, § 561).—Harvey v. Board of Public Instruction for Sarasota County, 133 Southern reporter 868, Fla.

A county board of public instruction holds school property as trustee (Fla. complete general laws of 1927, § 561).—Harvey v. Board of Public Instruction for Sarasota County, 133 Southern reporter 868, Fla.

A board of public instruction may dispose of school property only upon adequate consideration in a manner consistent with good business judgment (Fla. complete general laws of 1927, § 561).—Harvey v. Board of Public Instruction for Sarasota County, 133 Southern reporter 868, Fla.

A materialman could not sue the surety alone on a school-building contractor's bond which was joint and several where the materialman did not state facts bringing the case within the statutory exceptions (Ariz. revised code of 1928, §§ 3732, 3836).—U. S. Fidelity & Guaranty Co. v. Alfalfa Seed & Lumber Co., 297 Pacific reporter 862, Ariz.

Teachers

By becoming a member of a school committee, a dismissed teacher became ineligible to be a teacher in the same city (G. L. c. 71, § 52).—Clifford v. School Committee of Lynn, 175 Northeastern reporter 634, Mass.

A school teacher employed by a common-school district is an employee, not an officer (N. Dak. complete laws of 1913, §§ 1173-1175, 1177-1179, 1182, 1183).—Mootz v. Belyea, 236 Northwestern reporter 358, N. Dak.

The relationship between a school teacher and a school board is contractual only (N. Dak. complete laws of 1913, §§ 1173-1175, 1177-1179, 1182, 1183).—Mootz v. Belyea, 236 Northwestern reporter 358, N. Dak.

A school board's formal approval of the previous formal employment of a teacher constitutes a ratification of employment.—Beckman v. Belyea, 236 Northwestern reporter 361, N. Dak.

A statute providing a county normal-school board shall have charge and control of all matters pertaining to the organization, equipment, and maintenance of such schools gives the board authority to hire a principal (Wis. statutes of 1927, §§ 41, 37, 41-42).—State v. Langlade County, 236 Northwestern reporter 125, Wis.

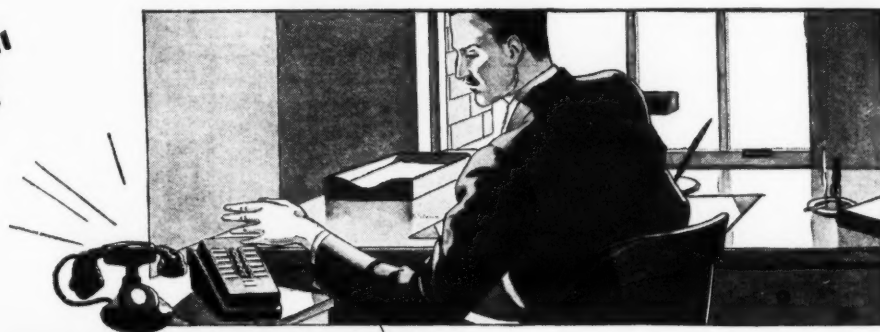
A contract employing a public-school teacher must be mutual, certain, and definite in its terms, and free from fraud and illegality.—Spence v. School Dist. No. 3 of Arthur County, 236 Northwestern reporter 145, Nebr.

Except as controlled by the statute, the validity of a contract employing a public-school teacher is governed by the rules relating to contracts generally.—Spence v. School Dist. No. 3 of Arthur County, 236 Northwestern reporter 145, Nebr.

A teacher's false representation concerning the term of a certificate with knowledge of its falsity and intent to induce employment constitutes fraud, vitiating the contract of employment.—Spence v. School Dist. No. 3 of Arthur County, 236 Northwestern reporter 145, Nebr.

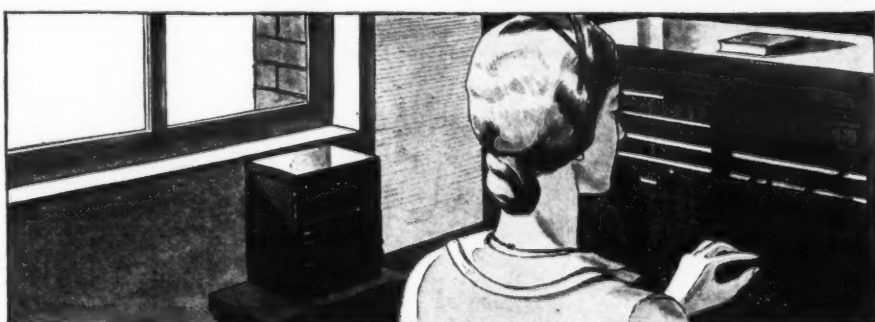
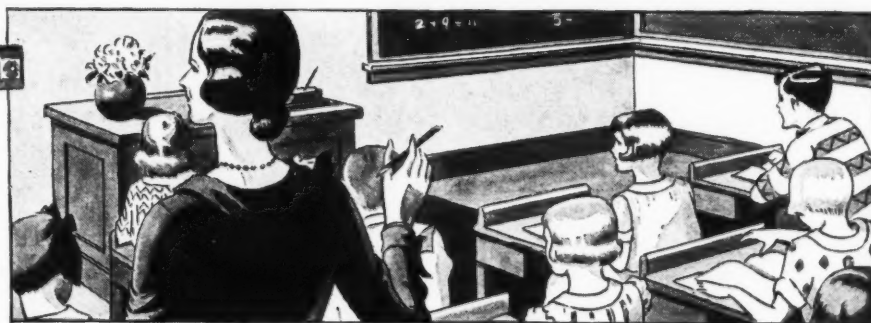
A high school was not entitled in determining the per-capita maintenance cost for tuition purposes to include insurance premiums at a higher rate than actually paid (Smith-Hurd revised statutes of 1925, c. 122, § 104).—Board of Education of Earlville Non-High School Dist. of La Salle County, 175 Northeastern reporter 810, 343 Ill. App. 200.

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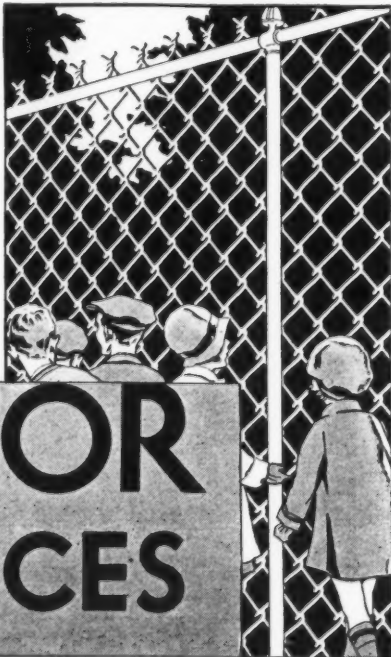
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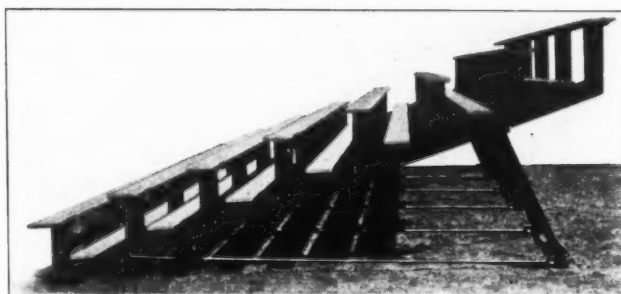
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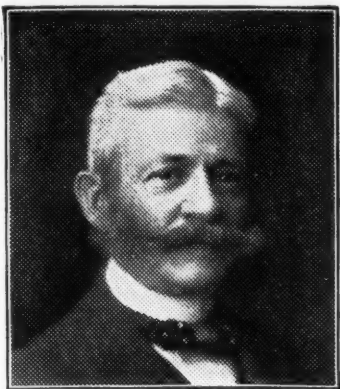
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Teachers and Administration

ONEIDA SOLVES TEACHER-EMPLOYMENT PROBLEMS

The school board of Oneida, N. Y., has adopted rules governing the employment of married women teachers. Under the rules, it will be the policy of the board that:

1. Until further notice, no married woman will be appointed to a regular position in the schools.
2. Married women who are at present employed in their probationary term will not be dismissed by reason of marriage, but will be ineligible for permanent appointment.
3. Women teachers who marry hereafter while employed in their probationary term will not be retained beyond the school year during which or prior to which they have been married.

The term "married woman" is understood to mean a woman who has a husband legally responsible for her support.

The school board has also adopted a plan of rewarding teachers who complete advanced training during the school year 1931-32. The plan lays down methods of obtaining credits and of earning bonuses for work completed. It reads as follows:

1. For the first 6 credit hours beyond the basic training required for the position, obtained by method "a" as described below, the teacher will receive a temporary bonus of \$50; by method "b," \$25.
2. After obtaining the second 6 hours by method "a" he will receive a permanent annual increment of \$50; by method "b" an increment of \$25.
3. For the third 6 hours he will receive a bonus of \$50 for method "a" and \$25 for method "b."
4. For an advanced degree indicating the completion of a year's work beyond the required basic training he will receive an increment to bring his salary \$100 higher than the basic salary and service increments.

5. For additional work a bonus will be paid on the basis of \$50 and \$25 for methods "a" and "b" respectively.

6. For the present the increments mentioned will be applicable only to members of the staff whose salaries are less than \$3,000 and will be retroactive with respect to credit for work done so far as accurate records may be had. The bonuses will be applicable to all members and shall not be retroactive.

7. All work for which credit is given must be approved by the superintendent of schools.

Recognized Methods of Obtaining Credit

- a) Resident courses (in summer or during the academic year) at an advanced institution.
- b) Extension courses taught in the teacher's own city or neighborhood by instructors sent from the advanced institution.
- c) In case of a combination of methods, if half or more of the work was done by method "a," the unit as a whole may be so rated.

TEACHERS AND ADMINISTRATION

♦ The board of education of Hamilton, Ohio, has decreed that married women teachers shall not be employed. In comment on the action the *Hamilton Press* says: "The action of the school board in this matter seems to meet with general approval on the part of the public. And especially so at this time when there is so much unemployment. Many can't see it that husband and wife should both hold good positions when in many families none are employed, nor can the husband find employment of any kind. Then just on general principles, many think it isn't proper that the wife go out and work where there is a good, big, healthy man hanging around, able to go out, and who ought to be willing to make a living and provide for both."

♦ Massillon, Ohio. The school board has ordered a 5-per-cent reduction in the salaries of all teachers, effective with the new school term in September. Contracts have been issued to teachers on a monthly basis, with eight months as the minimum, and ten months as the maximum. Under the plan, teachers who have reached the maximum

in the salary schedule are to receive a reduction of 5 per cent on the salary they received during the past term. Those who have not reached the maximum will receive a 5-per-cent reduction of their salary after they are given the regular increase provided in the schedule. The reductions are estimated to reach a total of \$18,500.

♦ Fall River, Mass. The school board has adopted a resolution, creating a preferred list of recently dismissed teachers, who will be given preferment in employment in the future. The group includes teachers in the classes of 1922 to 1926 who were dismissed from the service for economy reasons. They will be given preference in all substitute work and will be appointed wherever any vacancy arises.

♦ Egg Harbor City, N. J. Despite the economic depression, the school board has adopted the policy of continuing its salary schedule. The salaries of the teachers for 1931-32 have been increased according to the schedule followed in past years. All of the teachers have taken advantage of the opportunity for growth in service. Since July 1, 1930, all of 90 per cent of the teachers have attended either a summer school or have taken an extension course pertaining to the subject they teach in the schools.

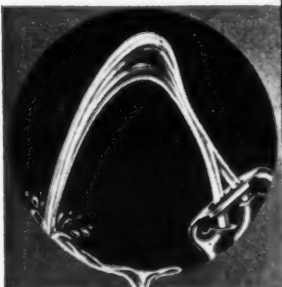
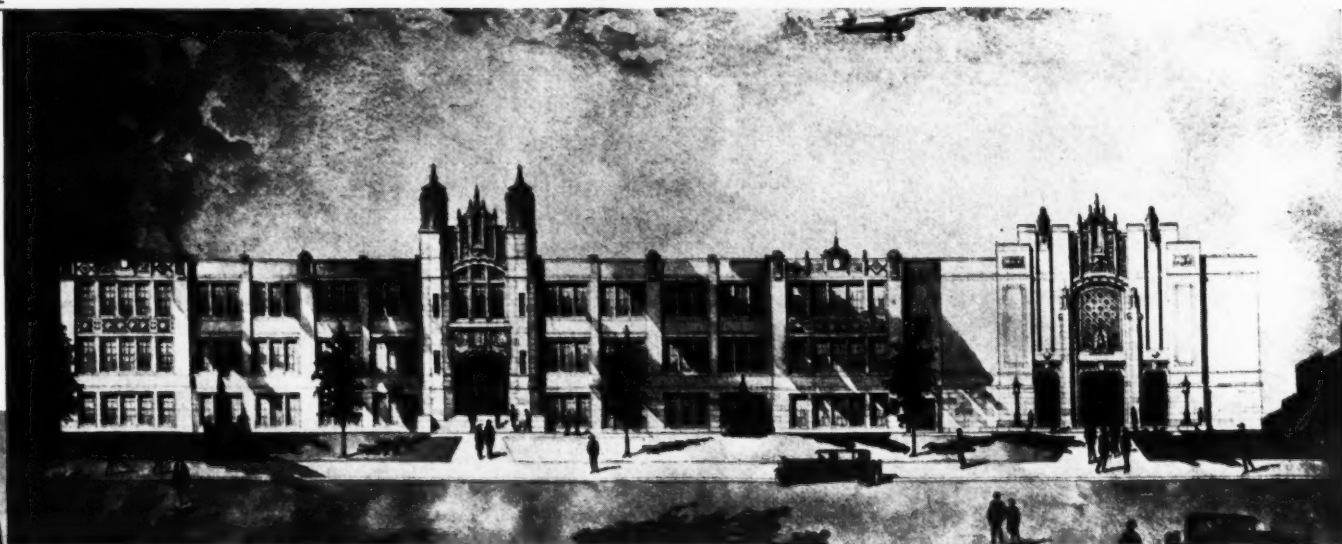
♦ Butte, Mont. The school board has adopted a new rule governing the employment of members of the teaching staff. Under the rule, when a vacancy in the teaching staff occurs, the superintendent is required to recommend appointments from the list of applicants in the order in which the application has been made "if in his judgment no other teacher of later date filing application is better qualified to fill the vacancy." In order to maintain their seniority in filing, each applicant must renew her application on or before the fifteenth of April of each year.

The new rule provides that all substitute teachers must have had at least two years of experience and they are to be appointed from the eligible list. The rule of seniority does not apply to the present teaching staff.

♦ Battle Creek, Mich. The school board has adopted a resolution, limiting the number of days'

Specified for this splendid HIGH SCHOOL

Beaver Falls High School
Beaver Falls, Pa.
Carlisle & Sherrer,
Architects



Automatic stream control and patented two-stream projector, distinguishing features of all Halsey Taylor fountains. Special models can be furnished with the orifice of projector above the overflow line of receptor to meet requirements of the American Public Health Association.

THE modern architect realizes the need for sanitation as well as light and air for school building efficiency. In line with this vital need, the specification of Halsey Taylor Drinking Fountains means more than an assurance of health-safe installation, it means a freedom from annoying service troubles after installation. Patented features make these fountains the ideal school specification!

...The Halsey W. Taylor Co., Warren, Ohio.

HALSEY TAYLOR Drinking Fountains

absence with pay to 10 a year, instead of 5, as formerly. The unused days will become accumulative for a period of not more than 60 days.

♦ Providence, R. I. The school board has reappointed the teaching staff at the same salaries as last year. The automatic raise, which would have amounted to \$4,000, has been suspended for the period of one year.

♦ Paterson, N. J. The school board has taken steps to prepare new rules covering substitute teachers. In the future, all teachers on the substitute list will be required to pass an examination. In the past, temporary substitutes were named on the basis of their scholastic qualifications.

♦ Detroit, Mich. The school board has revised its by-laws to provide for the retirement of all employees at the age of 70 years. It is provided that employees who have reached the age of 70 may remain one more year in service by passing physical examinations. The retirement of each teacher will be automatic at the end of the year in which the employee's birthday occurs.

♦ Dayton, Ky. A forced retrenchment in next year's budget has caused a reduction in the teaching staff and made it necessary to place additional duties on the retained teachers. It is believed that a proper assignment of the present staff will obviate any additional hardship on the part of the teachers.

♦ The court of appeals at Frankfort, Ky., has ruled that county boards of education must accept the recommendations of subdistrict trustees in the employment of teachers, even though their recommendation is contrary to a board resolution. In rendering the ruling, the court refused to dissolve an injunction obtained by two teachers to compel the county board of Estill county to employ them as teachers upon the recommendation of the subdistrict trustees.

♦ Norwood, Ohio. The school board has announced that it will stand firm on the recent resolution, which provides that no new teacher will be employed after reaching the age of 60. The purpose of the rule is to make openings for the younger teachers who have completed their course

of study and are awaiting an opportunity to enter the profession.

♦ Chicago, Ill. Two hundred payless teachers, carrying banners, marched down Michigan Avenue on July 2, and sought admission to Governor Emmerson's conference with 50 leading business men, who were considering the Cook county and Illinois tax crisis. While the great body of marchers did not get beyond the entrance to the hotel where the meeting was held, two of the teachers representing the teachers' union succeeded in getting into the conference where they presented their demands for the payment of the teachers.

♦ Lexington, Ky. The school board has adopted new rules governing the teachers. Candidates for teaching positions, including kindergarten, elementary, and high schools, must hold a bachelor's degree given by an accredited four-year college in order to receive appointment. All new teachers must pass a physical examination, and teachers in service will be required to pass a similar examination once every three years. The school board has set 70 years as the age of retirement, and 50 years the age limit for new appointees.

♦ Rocky River, Ohio. The school board has announced that it will shortly pay back salaries for teachers which amount to approximately \$7,000. The proposal affects 60 teachers who had not received pay for the past seven months. The situation was brought about by the depression and the tax delinquencies which have run unusually high.

♦ Lakewood, Ohio. Contracts of teachers for the next school year, in which they agreed to accept a cut of 3 per cent, have been, in most instances, returned to the school board and it is expected that the 397 teaching positions will be filled. All employees of the schools were subject to the wage reduction, but the automatic \$100 annual pay increases were retained in effect.

♦ Cleveland, Ohio. The school board has discontinued the cumulative sick leave for teachers, effective with July 1.

♦ New York, N. Y. The teachers' board of retirement has applied to all teachers the recent amendment to the retirement law, which limits the

pension of a member retiring with less than twenty years of city service to 1 per cent of his average salary for each year of service.

The amendment was intended to correct an existing condition and all further retirements will be calculated on the basis of the new amendment. It is believed that an interpretation of the act as affecting all teachers in service will require changes in rates and additional work.

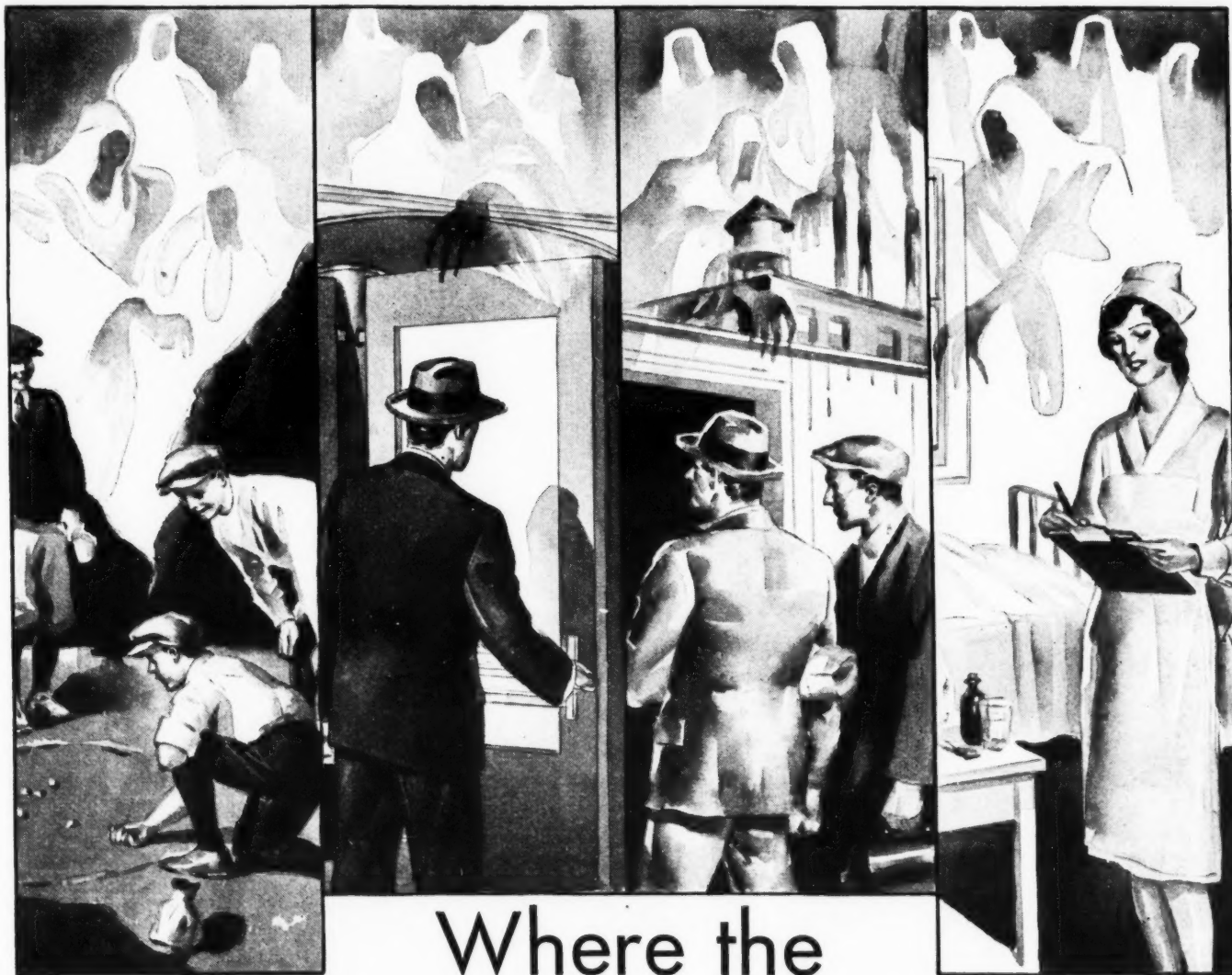
♦ Norwood, Ohio. Six teachers have been retired from the teaching service because of having reached the retirement age limit. Under the rules of the school board, teachers reaching the age of 60 years are eligible for retirement.

♦ Portland, Oreg. The school board has adopted a rule that members of the teaching staff of the local schools must live within the city limits. As a result of the rule, 68 employees of the school district, living outside the city, will be compelled to move into the city or give good reasons why the change is not possible.

♦ Maquoketa, Iowa. The school board has adopted a budget of \$55,000 for the next school year, which includes general and schoolhouse funds.

NORFOLK SCHOOLS BROADCAST

Norfolk, Nebr. During the past year the school system broadcasted a half-hour radio program once each week. Each program was sponsored by the board of education and was conducted with the cooperation of Station WJAG, of Norfolk. The programs were given each Wednesday morning from 9:00 to 9:30 a.m., and consisted of talent made up from the junior college for one week and the high school for the next. The two departments furnished the material for the program on alternate weeks, but school news and publicity of the school system were broadcasted between the numbers. The programs were intended to give the pupils an opportunity to appear before the radio, and to afford a means of publicity in keeping the work of the different departments before the school patrons and the general public.



Where the Deadly Legions Gather He Fights Your Battle

Every school, industrial plant, hospital, public building and similar place where humans gather is a potential rallying ground for the unseen legions of mankind's greatest enemy.



Wherever sanitation may be an acute problem, the Clow Soldier of Sanitation is your logical ally. Call him in. With his long experience and his complete line of specialized fixtures he naturally is, and can afford to be, unbiased in his ideas. This is George Weiss, Highland Park, Ill.—Northern Illinois Territory.

To "defeat" the germs that make up this army—and to lower the costs through the years—through proper plumbing facilities, has been the job of the Clow Sanitation Soldier since 1878.

It was a Clow Man who was called into a prominent Southern city when Typhoid had all but won the battle.

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Today these Clow Soldiers of Sanitation carry on, less spectacularly, but even more scientifically and effectively. They have

developed the Clow-Madden Automatic Closet for schools and public places. They have given us the sanitary drinking fountain. And they have developed a wide variety of fixtures to meet special and dangerous sanitary conditions.

52 years of experience in the battle against pollution, ill-health, and uncleanness give the Clow Soldiers unmatched knowledge of mass plumbing needs.

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EASY TO USE

THE WICHITA SCHOOLS SURVEY

The taxes and taxation committee of the local chamber of commerce at Wichita, Kans., has presented a report of the public-schools survey, in which it commends the public-school system in the highest terms and refutes the attacks directed with malicious intent at the board of education. The committee, in its report, recommends a reduction in the cost of operation and general readjustments to conform with business conditions at present existent.

In its findings, the committee states that the Wichita school system has not broken down as had been charged by certain individuals; that the board of education is not guilty of carrying overdrafts; that the school board is competent; that educational facilities in Wichita are of the highest class and should not be curtailed in any manner; and that any further investigation of the school system should be constructive.

While the report is a sweeping condemnation of the unfair attacks on the city schools, it offers many suggestions for reduction of the tax burden, as well as for further progress in education in Wichita.

The committee found that the cost of the schools is not excessive; that Wichita educational costs compare favorably with other schools in cities of the same size; that the board of education has not unlawfully created indebtedness; that a change should be made in the fiscal school year to avoid borrowing money until tax money is available; and that every economy practiced by other businesses should be rigidly observed by the board of education.

The committee concluded its report with the following recommendations, based on the facts and figures which the weeks of investigation disclosed:

The committee feels that a reduction in the total cost of education is imperative, for only by such means can the present tax burden be reduced. This reduction should come where it will do the least possible injury to the present fine school

system and calls for constructive action by the board, aided by disinterested and able experts. It may be that some activities regarded as useful and even important may be curtailed or eliminated. In times of economic depression the individual finds ways to lessen his expenditures and many things regarded as indispensable assume new aspects under changed conditions.

The committee feels that the present board of education is competent to deal with the problems presented to it when the fundamental facts upon which their solution must depend are gathered and analyzed. If public sentiment demands that the cost of public education be decreased, then the committee feels that the present board can and is willing to do so. The committee feels that in order that such a decrease may be accomplished without injury to the cause of education, some expert advice is necessary as to ways and means for lessening the expense.

The committee pointed out that substantial economies might be effected without any curtailment of present activities through the employment of a business manager. The experience of cities under the city-manager plan furnishes the criterion by which that conclusion is reached, rather than any examination into the details of the present or past conduct of the business affairs of the board of education.

Divorcing city politics from city business has been uniformly wholesome, and while the comparison is by no means exact, it is believed that a divorcing of the board from its purely business functions cannot help but be beneficial. The board should supervise both activities and is believed to be capable to do so.

It is not believed by the committee that there should be any expansion of educational activities at the present time. A comparison of the activities of the board with those of the average business in this respect becomes somewhat inaccurate; unlike the average business, the demands on the board are increasing and those demands must be supplied. The committee feels that the time calls

for the adoption of such expedients as are available to supply this increasing demand in such a satisfactory manner as is consistent both with the welfare of the child and the taxpayer.

Where an expenditure is necessary, it should be cheerfully and quickly made. Thought should be given to the methods of financing such expenditures so as to lighten and distribute the burden. Reasonable means are at hand for avoiding an expenditure, the committee believes they should be adopted even if in their nature temporary.

No information has been placed before the committee that would lead it to believe that there has been any unique factor bringing about any material increase affecting the cost of any given educational activity throughout the country in general during the period in question. If upon expert analysis any items appear to be out of proportion, it seems obvious that means should be sought for reducing those items of cost. If the cost is too high, it should be lowered. If it is not too high, means for a reduction must be sought elsewhere.

The committee believes that the present situation calls for public service of the highest order. The problem is not unique to Wichita, but is nation-wide, and it is the hope and belief of the committee that Wichita will assume a position of leadership in its solution.

The report is signed by the members of the subcommittee, consisting of Mr. R. E. Black, Mr. T. E. Elcock, Dr. J. L. Evans, Mr. A. J. Henson, Dr. H. W. Horn, Mr. E. F. Johnston, and Mr. E. A. Little.

♦ Hamilton, Ohio. Under a new rule of the school board, married women teachers will no longer be employed in the local schools. Women teachers who are already married and who are in the employ of the local schools, are not affected by the rule.

♦ Wooster, Ohio. The school board has voted not to employ married women as teachers. Seven teachers failed to obtain appointments this year as a result of the rule.

**DISCIPLINE
WON'T STOP**

Vandalism

**but Whale-bone-ite
will**

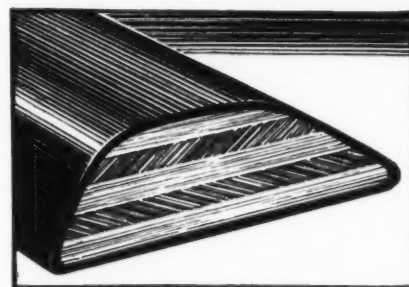
GENIUS for destruction will out. Equipment that can be destroyed seems to invite it. Of no school equipment is this more true than of toilet seats. Ordinary seats invite abuse in one of the best places in the world to teach ideal sanitary cleanliness and respect for property.

Have an inspection made. Have every toilet seat in the school looked at by the janitor. Get a report on their condition. Has the finish worn off? Are they cracked or split? Are the hinges corroded? Cracked seats and corroded hinges gather dirt and breed germs. Get rid of old-fashioned, worn-out, unsightly seats and install handsome, new Whale-bone-ite Seats in their place.

Whale-bone-ite always looks new, clean and inviting. It keeps its beautiful appearance forever. Once installed, Whale-bone-ite never has to be replaced. It is guaranteed for the life of the building, ending replacement expense once for all.

*Send Coupon for New Book
"Install Them Once
They Last Forever"*

In order to have proper toilet seats in present buildings or new schools, get the complete story of Whale-bone-ite Seats as told in this new book. No cost or obligation. Send coupon today. Address, The Brunswick-Balke-Collender Co., Dept. BB4, 623-633 So. Wabash Avenue, Chicago, Ill.



WHALE-BONE-ITE CROSS-SECTION

In this cross-section note the cross-grain, laminated construction, exclusive with Brunswick, that gives Whale-bone-ite a super-strength that defies time and abuse. It is the only construction that combines unbreakable strength with necessary lightness and sanitary qualities.

Jet-black, glass-smooth and diamond-hard, Whale-bone-ite beauty never wears off seat or hinge. No exposed hinges to corrode, to collect dirt or need polishing. No cracks to harbor dirt and germs. Easy to keep clean with minimum effort. Non-inflammable. With all these advantages Whale-bone-ite costs no more than the cheapest moulded composition seat made.

Brunswick
LAMINATED
WHALE-BONE-ITE
TOILET SEATS

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Gentlemen: Please send me without cost or obligation a copy of your new book that gives the complete story of Whale-bone-ite Seats.

Name

Name of School

Street

City State

IT TAKES A WHALE OF A SEAT TO STAND PUBLIC TOILET ABUSE

For Simplified School Sanitation THE SOLAR SYSTEM of Waste Disposal

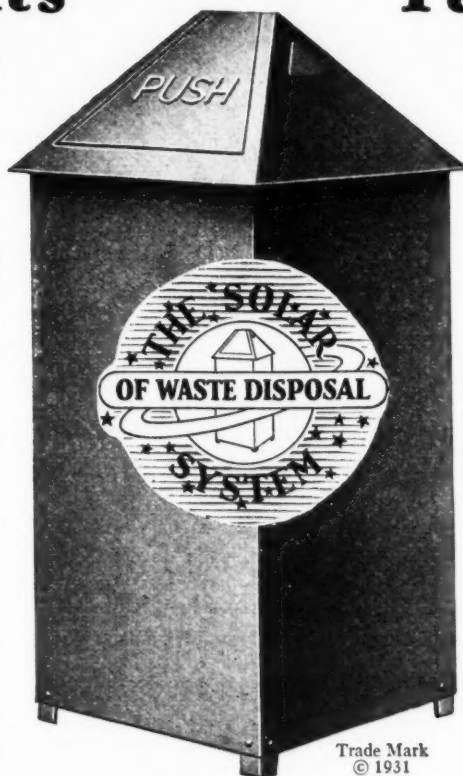
**locker-rooms
playgrounds
workshops
offices**

in

**laboratories
classrooms
lavatories
corridors**

ONE of the important duties of educators is to teach students the habit of cleanliness. It is the school executives' opportunity to train the pupils at a time when habits that will remain with them the rest of their lives, are being formed. Naturally each school system is interested in training students properly and instilling in them habits of cleanliness, which will work out to their own advantage as well as to the advantage of others, with whom they will be in contact in later years.

The Solar receptacle is a quality product, built primarily to encourage cleanliness and sanitation. Receptacles always in evidence throughout the school building are an invitation to keep the surroundings clean. Students are fascinated with the gravity swinging top of the individual receptacle, which



opens and shuts with effortless ease. You will be interested to know the cost of the Solar System of Sanitation is quite low and the upkeep is considerably less, while the results gained in cleanliness throughout the school building are really amazing.

May we suggest that before making your final requisition for your equipment and supplies you send us a plan of your school and let our engineers suggest what the Solar System can do for you. We shall be pleased to indicate where receptacles should be placed to secure the best results and will be glad to quote a price on the entire cost of installation. Bear in mind that there is no obligation.

Write now to secure installation and delivery before the opening of the Fall term.

THE SOLAR-STURGES MFG. CO., MELROSE PARK ILLINOIS

Personal News of School Officials

♦ The school board of Dayton, Ky., has reorganized for the school year 1931-32, with the election of Mr. ALBERT VOLZ as president, Mr. STANLEY DAUGHETTE as vice-president, Mr. HARRY KOENIG as secretary, Mr. ALFRED SEAR as treasurer, and Mr. CHARLES YUNGBLUT as attorney. Mr. CLARENCE WINTERS was elected as a new member of the board. The holdover members are Mr. ALBERT VOLZ, Mr. WILLIAM WHARTON, and Mr. STANLEY DAUGHETTE.

♦ Mr. HARRY V. MEISSNER, nonpartisan member of the school board of Milwaukee, Wis., was elected president of the board on July 7. Mr. Meissner succeeds Mrs. Elizabeth M. Meehan. Mr. W. F. BUECH, a Socialist, was elected to fill a vacancy on the board.

♦ Mr. FRANK H. SCHADE has been reelected as president of the school board of Cudahy, Wis. Mr. AL DEMENT was elected vice-president, and Mr. JOSEPH HEFFRON secretary. Mr. GEORGE KOCH and Mr. WILLIAM LAWLER were the two new members who took their seats for the first time.

♦ A testimonial dinner was given on June 28 to Mr. RICHARD W. BOOTH, who had completed 35 years of service as a member of the board of education, Nutley, N. J. Mr. Booth, who had served as president for 19 years, has been retained as a member of the board. A humidor was presented to Mr. Booth and flowers to his wife.

♦ Mr. E. J. MILLER has been elected secretary of the school board at DeWitt, Iowa, to succeed O. L. Bates.

♦ Mr. G. A. KIDD has been reelected as secretary of the school board at Oelwein, Iowa.

♦ Miss HELEN AHLISCHLAGER has been elected secretary of the school board at Muscatine, Iowa.

♦ Mr. W. A. LANE has been reelected secretary of the east side school board at Waterloo, Iowa.

♦ Mr. H. C. ROBERTS has been reelected as secretary and business manager for the board of education at Sioux City, Iowa.

♦ Mr. L. M. HAINES has assumed charge of the business affairs of the St. Joseph, Mo., board of education. He succeeds Mr. A. L. Loving.

♦ Mr. H. S. VANDEREN has been reelected as business manager of the board of education at Nashville,

Tenn. Mr. VanDeren has been connected with the Nashville school system for 33 years and has been business manager since 1912.

♦ Mr. L. W. POWELL, a member of the board of education of Kenosha, Wis., since 1920, has been reelected for his eleventh term.

♦ SUPT. O. W. DAVIS, of Dayton, Ky., has been reelected for a four-year term.

♦ SUPT. C. T. STONE, of Long Branch, N. J., has been reelected for a five-year term.

♦ Dr. F. E. HARSHMAN has been elected principal of the senior high school at Nutley, N. J. Mr. J. H. SNYDER has been appointed principal of the junior high school.

♦ Mr. DAVID H. STEWART has been elected superintendent of schools at Beaver, Pa.

♦ Dr. DON L. ESSEX has been appointed assistant in the Division of School Buildings and Grounds of the New York State Education Department. Dr. Essex assumed his duties about the middle of June.

Dr. Essex is the author of a recent book on *The Pay as You Go Versus the Bonding Plan for Financing School Buildings*.

Dr. H. J. DAVENPORT, 70, author of textbooks and professor of economics at the University of Southern California, died at Los Angeles on June 18. Dr. Davenport was an executive in the Lincoln, Nebr., school system 30 years ago and was formerly connected with the faculties of Chicago University, Missouri University, Cornell, and Carnegie Institute of Technology.

♦ SUPT. W. W. MEYER, of Harvard, Ill., has been reelected for a three-year term.

♦ Mr. F. C. GILMOUR, of Mingo, Ohio, has been elected superintendent of schools at Newton.

♦ SUPT. J. D. FALLS, of Ashland, W. Va., has been reelected for a four-year term.

♦ SUPT. C. T. STONE, of Long Branch, N. J., has been reelected for a five-year term.

♦ SUPT. H. H. SANDS, of Haydenville, Ohio, has been reelected for a three-year term.

♦ Mr. D. E. STEWART has been elected superintendent of schools at Ravenna, Ohio.

♦ Mr. H. W. LEECH, of Perry, Mo., has been elected superintendent of schools at Odessa.

♦ SUPT. L. O. LITTLE, of Bolivar, Mo., has been elected superintendent of schools at Neosho, to succeed N. E. Viles.

♦ Mr. P. S. AMIDON, of Upsala, Minn., has been elected superintendent of schools at Litchfield.

♦ Mr. E. R. ADAMS, of Tarkio, Mo., has been elected superintendent of schools at Chillicothe.

♦ SUPT. IRVING MUNSON, of Momence, Ill., has been reelected to serve another year at the same salary. Mr. Munson is entering upon his twelfth year as superintendent.

♦ Dr. C. H. THOMPSON and Mrs. THEODORA V. GOTT, who had served for many years on the school board at Goshen, N. Y., have recently resigned. Dr. Thompson had been a member of the board for eleven years, and Mrs. Gott for the past eight years.

♦ Mr. C. H. GRIFFEY, of Adrian, Mich., has been elected superintendent of schools at Lancaster, Ohio, for a term of three years.

♦ SUPT. R. M. GARRISON, of Belleville, Ill., has been reelected for another year.

♦ Mr. JOHN S. ALAN, superintendent of schools at Salem, Ohio, died at a local hospital on July 4, of a cerebral hemorrhage superinduced by the excessive heat. Superintendent Alan was one of the outstanding schoolmen of Ohio and was president of the Columbian County Schoolmasters' Club. He was a graduate of Thiel and Wooster Colleges and enjoyed a wide experience in school administrative work. He had been superintendent at Salem since 1913.

♦ Mr. KERMIT DAUGHERTY has been elected superintendent of schools at Mt. Pleasant, Ohio.

♦ Mr. G. E. DEWOLF has been elected superintendent of schools at Downers Grove, Ill.

♦ Mr. C. L. MCKIM, of Antwerp, Ill., has been elected superintendent of schools at Hennepin.

♦ Mr. A. L. BURNHAM has been elected superintendent of schools at Scottsbluff, Nebr.

♦ Mr. GERALD IMBODY, of Buffalo, Iowa, has been elected principal of the high school at Monmouth, Ill.

♦ Mr. J. L. LARSEN, of Dunkerton, Iowa, has been elected superintendent of schools at Grundy Center.

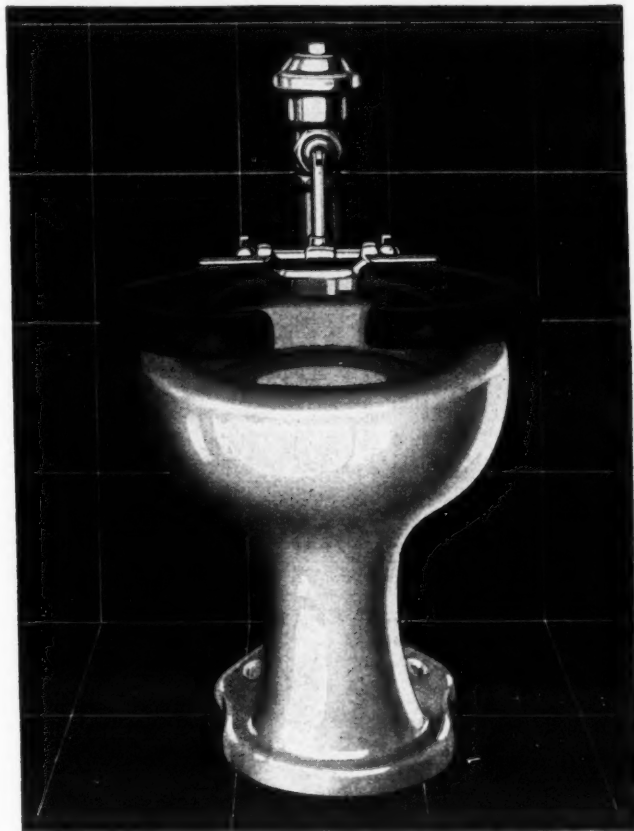
♦ Mr. W. A. BOETTECHER, of Herman, Mo., has been elected superintendent of schools at Curryville.

♦ Mr. W. L. MORGAN has been elected superintendent of schools at Gallatin, Mo., to succeed L. M. Hosman.

♦ Mr. R. C. FINLEY has been elected superintendent of schools at Hiawatha, Kans., to succeed the late C. E. Waterson.

♦ Mr. CHARLES B. BOYER, superintendent of schools of Atlantic City, N. J., for the past 27 years, retired on August 1, after completing 41 years in the service of the Atlantic City schools. The school board of Atlantic City, in accepting Mr. Boyer's resignation, adopted resolutions of appreciation and respect, and appointed Mr. Boyer as superintendent emeritus.

The Royal Automatic seat-operating valve delivers a full, positive flush and not one drop more. With this valve no bowl stands unflushed, yet no water is wasted.



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The first choice of school authorities

In the nation's finest schools the majority of flush valve installations are Sloan.

This preference is easily understood. The Sloan Valve Company has been making flush valves—and flush valves only—for twenty-five years. A quarter century of specialization has established a reputation for dependable, unfailing service which is unequalled in the flush valve field.

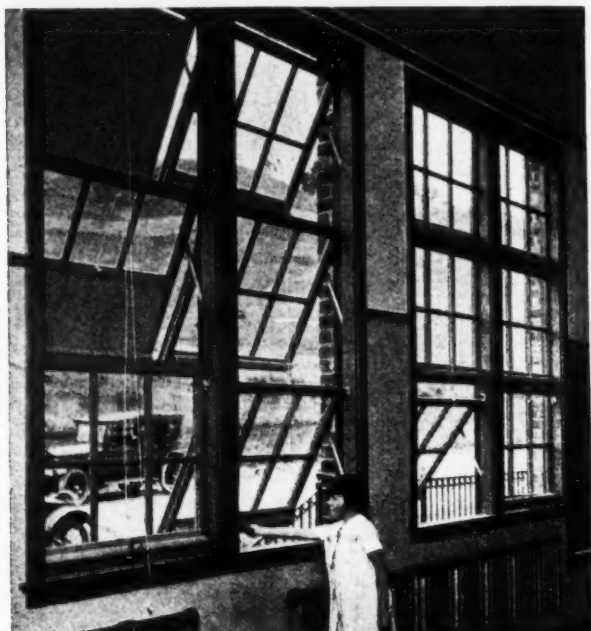
In addition, the Sloan line includes hand-operated and automatic seat-operated flush valves of all types, either exposed or concealed. Thus every school requirement is provided for, whether floor or wall outlet closets, urinals or slop sinks. For maximum water savings, valves with a measured flush are available for cold water showers and lavatories.

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are hygienically correct. Specially adaptable for the modern needs of school buildings. Recommended and in wide use to meet lighting and ventilating requirements. Sturdy, attractive and economical.

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School Administration Notes

HIGHER EDUCATION HAS REMARKABLE GROWTH IN DECADE

College and university education has shown a remarkable growth in the United States in the past ten years, both as to enrollment, variety of courses offered, income and property, according to Mr. W. C. John, Associate Specialist in Graduate Education, who has completed a survey for the U. S. Office of Education.

The preparation of young men and women in the universities and colleges for the numerous activities and responsibilities that engross the lives of the American people has become one of the major enterprises of the country. This is evidenced not only by the remarkable growth in the number and size of higher educational institutions but also by the increasing seriousness of effort being made by these institutions to improve the quality of their product.

For the 25 years preceding the world war the number of colleges and universities remained practically constant. In 1916-17, the number reporting was 662, including 82 junior colleges. In fact, during the 25-year period there had been a slight decline in the number of colleges and universities, and even by 1920 the total number had reached only 670. But, in 1926, the number had increased to 975, and in 1928 to 1,076, an increase of 107 institutions for the biennium and 412 for the nine-year period.

The growth of the student body has also been great. In 1920, the enrollment, excluding preparatory students, reached a total of 462,445; in 1926, the number reached 767,163; and in 1928, there were 868,793, an increase of 65.9 per cent and 88 per cent over the enrollment for 1920. The enrollment in 1928 was 8.8 per cent greater than that for 1926.

The total income for the 1,076 institutions reporting in 1928 was \$546,674,266. Excluding additions to endowment, the income was \$496,529,309. The total income for 975 institutions in 1926 was \$479,774,664, and excluding additions to endowment it was \$407,400,036. In 1920, the total income for the 670 institutions was \$240,141,994, and excluding additions to endowment it was \$189,235,242.

The total value of property for the 1,076 institutions in 1928 was estimated at \$2,413,748,981; in 1926, it was \$2,334,307,421; and in 1920 it was \$1,257,614,739.

The value of all property, including productive endowment funds, in publicly controlled colleges and universities in 1921-22 was \$360,184,477; in 1927-28 it was \$664,290,782, or an increase in six years of 84 per cent. The value of productive endowment funds of publicly controlled colleges and universities in 1927-28 was \$110,505,241, or an increase of 47 per cent. The value of these funds in privately controlled colleges and universities in 1927-28 was \$1,039,607,010, or an increase of 67 per cent.

Of the total property value in 1927-28, public institutions owned 24 per cent, the private 76 per cent; of total value of productive endowments the public institutions owned 10 per cent, and the private 90 per cent; of the total property value, excluding endowments, the public institutions possessed 33 per cent and the private 67 per cent. In 1928, there were 22 publicly controlled universities and colleges and 162 privately controlled institutions reporting endowment or productive funds valued at \$1,000,000,000 or more in each case.

STATUS OF FREE TRANSPORTATION IN THE UNITED STATES

More than one third of the states have enacted laws during the past two years, providing for the transportation of pupils to public schools, according to Mr. Ward W. Keesecker, specialist in school legislation for the U. S. Office of Education.

The provisions enacted reveal considerable effort

to increase school attendance, by facilitating school accessibility. School efficiency and economy seem to favor this method. Colorado has authorized boards of education of all school districts to transport such pupils as in their opinion require transportation, or to pay board if transportation is impracticable, and permitted pupil transportation in third-class districts upon a majority vote of the electors. Idaho requires districts whose children attend school in another district to pay tuition. Iowa provides for state payment of tuition of children of employees on state or federal land.

Kansas has authorized school boards to transport elementary and secondary pupils to schools maintained by other boards. Kentucky grants free tuition in all state secondary schools and colleges to every child between 16 and 21 whose parent died in the service of the world war. Minnesota authorizes school districts to pay for the transportation of elementary and high-school pupils who attend school in another district. New Jersey has increased apportionments for tuition of non-resident high-school and elementary pupils.

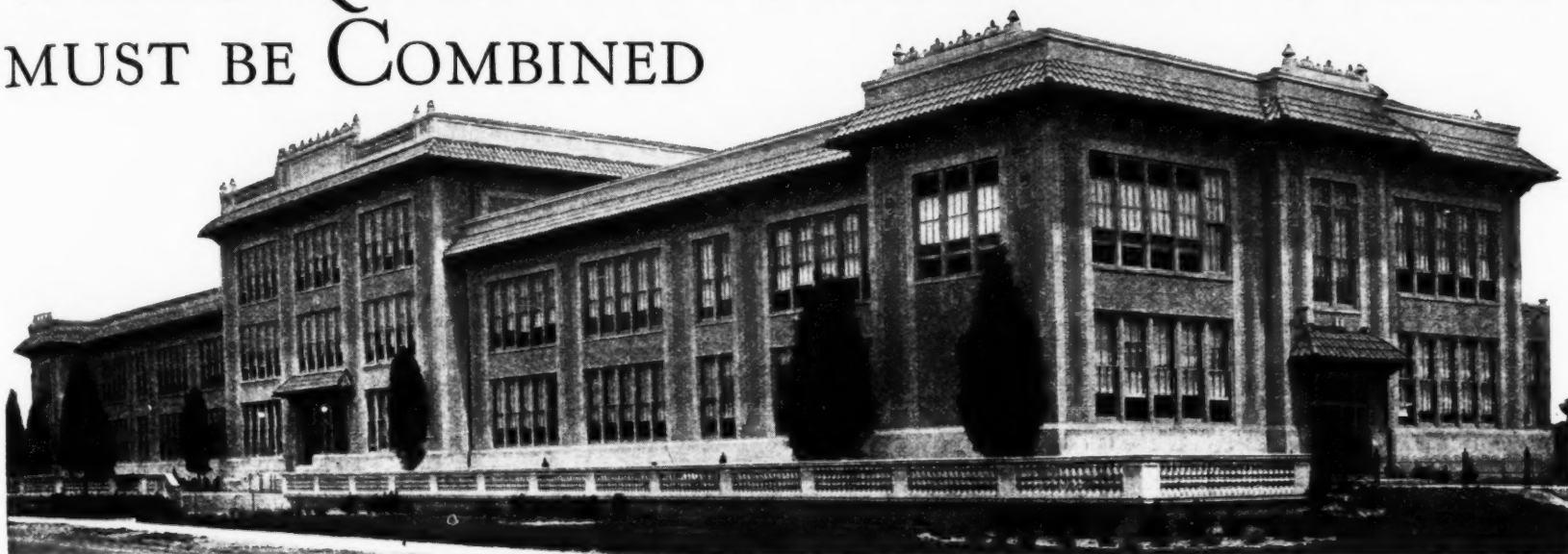
New York has required nonhigh-school districts to provide necessary transportation for their qualified pupils attending high schools in another district and granted state aid equal to one half of the transportation costs.

North Dakota provides for payment of state and county tuition funds to the United States whenever the educational responsibility of a school district within an Indian reservation is taken over by the United States.

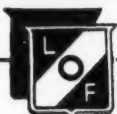
In 1930, South Carolina appropriated \$350,000 from the school fund for pupil transportation to be apportioned to counties on the basis of per mile, and directed the county boards of education to designate official routes for transportation. Texas recently removed the minimum tax limit in school districts which was required before they could receive state-aid reimbursement for high-school tuition.

Wisconsin requires the transportation of all pupils living more than two miles from school; and has authorized school districts in lieu of trans-

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portation or board and lodging, to pay the tuition of pupils attending school in another district, when such attendance is convenient without transportation. When any pupil more than four miles from school in his district attends school in another district, his home district must pay the tuition.

SLOW PUPILS ACCELERATED WHEN TAUGHT IN SPECIAL GROUPS

The department of ungraded classes of the New York City schools has recently completed experiments in Public School 208, Brooklyn, with special classes for retarded children and for those unusually bright children, which have demonstrated the value of special instruction in small groups.

The report points out that retarded children, receiving individual attention for their difficulties, were unable to complete three or four terms' work in a year. A group of 35 bright children in the 4B classes earned double promotion. Normal children with a partial or total reading disability improved sufficiently during the year so that they could take up the work of the grades in which they would have been if they had been promoted regularly.

A study of the record cards of 874 children in grades 1B to 5B showed that 50 per cent had been promoted regularly, 30 per cent retarded, and 20 per cent accelerated. Achievement tests given to 442 children showed that there were ten in each class who had been misplaced. At the end of the first term, six of these children were promoted from each of the reading classes, three from the opportunity classes, and one had failed to maintain the grade. In June, 46 children were restored to the grades. The remainder of the class was promoted to a higher experimental class. Fourteen were promoted to the second higher class, and five to the third higher class, thus reducing the amount of their retardation.

During the second term, a control group of 80 children with a total or partial reading disability was set up at a neighboring school. The children of this group were not given any special instruction in reading. At the end of the term, 61 of them had made no gain in reading. Several of

the others had gained less than a term. The average gain in reading made by the 80 children in the experimental classes, who were paired with the children in the control group, was one and one-third terms. They made more than normal progress when special attention was given to their reading disability.

An attempt was made to provide for the instruction of superior children. A group of 35 children in the 4B class was doubly promoted. During the first term they covered the work of the 5A and 5B classes. During the second term, their curriculum was enriched by various projects. Tests of educational attainment proved that this group made an average gain of the year.

The study was undertaken under the auspices of the subcommittee on Mental Hygiene of the Committee on Retardation, appointed last year by Supt. William J. O'Shea. The study was directed by Mrs. Edna W. McElwee, a psychologist in the department of ungraded classes, and was aided by Miss Margaret McCooley, associate superintendent, and Miss Margaret P. Rae, district superintendent, who personally supervised the experimental classes.

ADMINISTRATION NOTES

♦ Richmond, Ind. A junior-high-school system has been established in the Riley School in Wayne township. Under the new plan, pupils who have completed the first sixth grades in the Highland and Pleasant View schools will take a junior-high-school course in the Riley School. In townships other than Wayne, the students will take their junior-high-school training of three years at the township high school, after completing the first six grades in their district schools.

♦ Harrisburg, Pa. State Supt. James N. Rule has recently appointed a special commission to study educational problems in the state. This is the second step in the department's ten-year program of educational development. The commission has assigned five of its members to work with Dr. Rule as an advisory committee.

♦ The county board of education of Hancock county, Ind., has adopted rules governing the

awarding of contracts with bus drivers. The rules read:

1. Drivers must furnish 1931 chassis, with 157-inch wheelbase. Bodies will be furnished by the township.
2. Drivers must take out insurance to the amount of \$5,000 property damage, and \$20,000 liability.
3. Drivers must give personal or surety bond for \$1,000.
4. Drivers must keep busses clean at all times and protected from weather when not in use.
5. Busses shall be used to transport school children only.
6. Drivers must be of good moral character. They shall not use tobacco or profane language while children are in their cars.
7. No women drivers will be employed.
8. Drivers must be familiar with the terms of their contract and with the traffic laws. Drivers are responsible for the moral and physical welfare of the children under their care. Twenty-five miles an hour is the speed limit for school busses.

The contracts with the bus drivers are awarded by bids and after published notice has been given. The contracts are let to the lowest responsible bidder and extend for one year, with the privilege of extension to four years, at the option of the trustee and the advisory board.

♦ Omaha, Nebr. By a vote of 9 to 2, the board of education has discontinued the school savings plan. The plan had been in operation for several years but was eliminated because of the extra work falling to the teachers.

♦ Conneaut, Ohio. A radio loud-speaker has been installed in the junior high school for transmitting messages from the principal's office to the various classrooms. A number of brief school programs have been broadcast with the aid of the loud-speaker.

♦ Akron, Ohio. The school administrative staff has proposed the elimination of the February commencement, beginning with 1933. Under the new plan, the classes graduating in February will merely drop out of school, to reappear for the regular June commencement five months later.

Book News and Reviews

SCHOOL BONDS AND TAXATION

Unquestionably the subject of school finance is being scrutinized at this time more closely than ever before in the history of the country. This is due, on the one hand, to the fact that the school costs are at present higher than they have ever been, and on the other, because the economic depression is manifesting itself here and there in a reduced tax yield.

Where the question of retrenchment has come under serious consideration there has also been an inclination to examine more closely the instrumentalities employed in creating school support. In brief, the sources of taxation have come under closer scrutiny.

This scrutiny turns quite naturally upon the legal limitations. Twenty-five states have constitutional limitations on school indebtedness while 22 additional states have placed statutory limitations upon school indebtedness. These limitations are fixed upon a certain percentage of the assessed valuation of property, varying in the several states from 2 to 10 per cent. The average rate of statutory limitation in which there is no constitutional limitation is approximately 7 per cent of the assessed valuation of all property.

A recent study¹ on the subject of school finance has set forth the problem as one which is particularly beset by legal limitations. The author contends that these limitations are not always in accord with the tax ability of the community and, therefore, impose unnecessary restrictions upon the schools and upon educators. More funds, he holds, may not only be necessary but accessible if the restrictions were removed.

On the other hand, it should be said that the legal limitations possess, on the whole, redeeming features which cannot be ignored in any sound policy of public finance. A few years ago it developed that 18 municipalities in Canada had defaulted on their public-debt interest charges. Since then some of the communities in the southern states of our own country have run into a similar predicament.

The trouble here arises for the want of legal limitations together with a sudden shrinkage of property values. The laws which fix a 5-per-cent bonded debt limit, based upon property values, have proved a beneficent safeguard.

Avenues of Relief

The proposal for additional funds includes three avenues of relief, one by inducing the legislature to increase the statutory limitation on aggregate indebtedness, the other by inducing the assessor to increase property valuations, and still another by securing a more efficient system of taxation.

There is no question that both the problem and the solution have been well stated by Prof. Smith. Where the pressure of adequate school support is severely felt, one or the other of three methods of relief must be resorted to. It remains to be said, however, that statutory limitations are not easily changed, and that they automatically raise or reduce the tax yield in proportion to the rise and decline of the property valuation.

This being true the first point of attack must be on property valuations rather than upon statutory limitations. The fixing of these limitations contemplate uniformity covering all tax units, and do not exempt this or that unit, or

readily lend themselves to special legislation. The thought here must be that the equitable valuation of all properties becomes a basic consideration.

The provision that a tax unit cannot obligate itself beyond a reasonable limit based upon the total property value, is a wise one. A bond issue not only means a deferred obligation, but it also means that the obligation must eventually be paid. Therefore, it can at no time be larger than the prospective income of the tax unit will be able to meet. Statutory limitations have their definite value.

Subject of Property Valuations

Going a step farther into the subject of school taxation we arrive at the question of property valuations. Are they uniform? Here we mean that uniformity which favors no one. If all properties are assessed at 60 per cent of their true value, no one is hurt. But if favoritism prevails whereby one property is assessed at 40 per cent, another at 60 per cent, and still another at 80 per cent, a gross injustice is done to someone. Thus it can make but little difference whether the assessed valuation is on a 50- or 100-per-cent basis, so long as the rule of uniformity is carried out.

In this connection, however, it should be remembered that the bonded indebtedness of a tax unit is gauged upon the total property valuation. Thus assessments affect debt limitations. The present writer is here reminded of a case where a town wanted to bond itself for a new schoolhouse. The total assessed valuation, which was based upon 40 per cent of the true value, did not permit the bond issue. Thereupon the town assessed all its property upon a 100-per-cent basis, and could then engage in the bond issue and at the same time remain within the statutory debt limit. After a few years the town, when it could afford to do so, reverted back to the old assessment plan.

Adequate School Support

The contribution made by Professor Smith in his recent book on the subject of school taxation not only clarifies the legal restrictions which attend the issuance of bonds, but also adds something toward a better knowledge of the limitations on tax rates. Both are factors which enter vitally into the school-finance problem.

An intelligent approach to the formulation of a school-building program is predicted upon a familiarity with the tax ability of the community, the ratio of population growth, and the housing likely to be required within a given period of time. Next in order follows an understanding of the legal restrictions which must be observed in a bond-issue project, and the considerations which obtain in a well-planned and well-digested plan of school finance.

NEW BOOKS

An Introduction to American Civilization

By Harold Rugg. Cloth, 610 pages, illustrated. Published by Ginn and Company, Boston.

Here is a splendid book. It proceeds upon the thought that the rising generation must be impressed with the changes which confront the newer day—changes in living, getting of food, making of clothing, mechanical power, and in transportation and communication. The comparative between then and now is demonstrated in illustrations. Facts and data are brought to the human eye with marvelous clarity.

The comparisons not only show what the United States was in 1800 and is now, but they also show our relative standing with the rest of the world. Our production of pig iron, coal, oil, cotton, grain,

horse power, railroad mileage, is compared with similar production elsewhere.

The author who has arranged his book in thirty chapters, grouping them into nine units, deals with the economic phases in their logical order. Thus he discusses climatic influences, natural resources, modern production ability, trade and traffic, and standards of living.

The American continent is given a setting that notes clearly the physical peculiarities and the consequent economic activities in contradistinction of other lands. In other words, the student is made to see the continent and more particularly the United States as a fraction of the globe itself. Thus, the several chapters go into geographic considerations, the inventive genius of the people, their constructive ability, and their accomplishments.

The Outdoor World

By Paul G. Edwards and James W. Sherman. Cloth, 270 pages. Price, 88 cents. Published by Little, Brown & Company, Boston, Mass.

This is Book Three of the Nature Activity Readers. As in the case of the earlier books, the purpose of providing information and arousing an interest in nature is splendidly achieved. The observation and study projects and the new-type tests amply justify the word "activity" in the title.

The Teaching of French

By Florence M. Baker. Cloth, 286 pages. Price, \$2. Houghton Mifflin Company, Boston.

The advance in the teaching of modern languages has been delayed by the narrow insistence of leaders upon the use of a single method. The present author discards entirely the arguments of the direct and the indirect methods and holds that techniques based on sound psychology of learning must be developed separately and applied as such to the teaching of silent reading, speaking, translation, composition, vocabulary, etc. In other words, the learning of a modern language is a complex process, involving various skills and methods which have been found successful in the classroom, for developing each of these skills, must be applied to insure continuous growth. The author insists upon careful attention to giving pupils a good start during the first two years so that they master pronunciation, grammar, and reading equally well and develop a feeling for the language. It is argued throughout that the teacher's approach must be truly scientific, that the newer ideas in curriculum building must be employed, that tests must be of the time-saving and accurate type.

Fabrics and Clothing

By Sarah MacBride and Ellen B. McGowan. Cloth, 235 pages. The Macmillan Company, New York, N. Y.

The theme of this book is intelligent buying and use of textiles for clothing and household purposes. The treatment is quite complete for girls at the junior-high-school level.

Fads and Fallacies in Present Day Education

By H. E. Buchholz. Cloth, 200 pages. Price, \$1.50. Published by The Macmillan Company, New York City.

This might, on the whole, be called an interesting book. In some respects it is an odd book. The author speaks his mind with a daring frankness, finds much in the educational trends and activities of the day that enlist his attention, and much that arouses his opposition.

The oddest part of the book is the conflict between the foreword and the book proper. William C. Bagley, who writes the foreword says that he "is out of sympathy with much that Mr. Buchholz says about education in this volume. Almost necessarily, I suppose, satire involves exaggeration. Hyperbole has been characterized as the boldest figure in rhetoric and our author is a past master in its use."

And then the author permits himself a rejoinder which he heads "And a Reply" in which he holds that "my faith in the intelligence of those who may read the book would not permit me to intersperse the text with suggestions that a little sugar be sprinkled here and there, and that a statement there must be taken with a grain of salt."

The author picks out here and there the exceptional, the ludicrous, and the unusual. He enlarges

(Concluded on Page 92)

¹Legal Limitations on Bonds and Taxation for Public School Buildings, by James H. Smith, Ph.D., Published by Teachers College, Columbia University.

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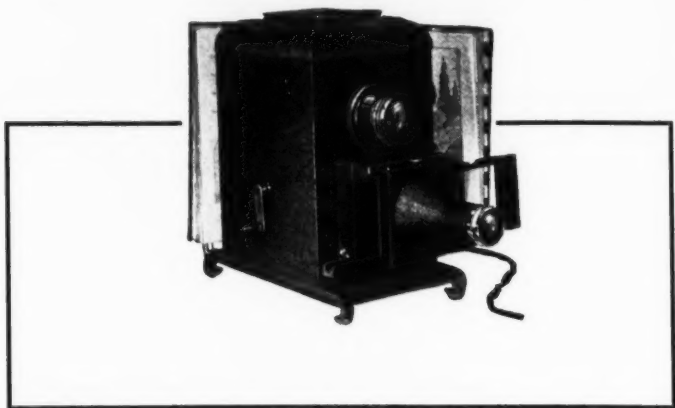
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(Concluded from Page 90)

upon these until he believes them to be a common everyday evil. Much of the material he dishes up smacks of the political demagogue who enlarges upon the shortcomings of the opposition party—and remains absolutely blind to its virtues.

To be sure, in order to give credence to what the author says, kernels of truth and sanity have been interspersed with the radical, scolding, and fault-finding rubbish. There are enough fool remarks made by schoolmasters every year to fill a good-sized book, but the worth-while things said and done would fill whole libraries.

Education Tunes In

By Levering Tyson. Paper cover, 219 pages. Published by American Association of Adult Education, New York City.

This is a book on radio as an educational device. While the author has designedly avoided any discussion of the radio in public-school programs, he discusses the radio as a factor in education with considerable clarity. He, moreover, discusses the status of the radio activities, government control, present educational broadcasts both in Europe and the United States.

He enters upon the problems for research and experimentation, and provides a digest of successful educational broadcasts.

Mathematics for Junior High Schools

By Leo J. Brueckner, Laura Farnum, and Edith Woolsey. Cloth, 456 pages. Published by the John C. Winston Company, Philadelphia, Pa.

This modern algebra for ninth-grade classes views algebra as an extension and generalization of arithmetic. It is to be taught especially to enable pupils to grasp and use mathematical relationship as expressed in formulas and equations. In addition to its practical utility for personal and social uses, the work is finally reviewed as a natural introduction to geometry. The work is less formal than the average text; it makes good use of the newer types of tests and review questions; and it is full of human interest applications and illustrations.

Diagnostic and Remedial Teaching in Arithmetic

By Leo J. Brueckner. Cloth, 342 pages. Published by The John C. Winston Company, Chicago, Ill.

The entire subject of arithmetic is here approached from the standpoint of discovering learning difficulties and of remedying the shortcomings of pupils. The latest scientific studies in the field are evaluated and applied, but the author's own practical experience gives the book its greatest value.

General Elementary Botany

By Elmer Campbell. Cloth, 410 pages. Price, \$3. Thomas Y. Crowell Company, New York, N. Y.

The success of the first edition of the work has caused the author to introduce minor changes suggested in practical use and to develop further the emphasis of human welfare.

Plane Geometry

By Frank M. Morgan, John A. Foberg, and W. E. Breckenridge. Cloth, 436 pages. Houghton Mifflin Company, Boston.

While the present book follows the sequence of topics and the basic requirements of the several standardizing agencies, it departs radically from conventional texts in its emphasis upon the solution of original problems and the well-directed effort to develop the mathematical powers of students. A considerable number of problems are practical rather than merely mathematical. Mechanically the book is attractive.

New Day Arithmetics

By Fletcher Durrell, H. O. Gillett, and T. J. Durrell. Six books, 68 to 72 cents each. Cloth. Chas. E. Merrill Company, New York City.

The six books of this series are planned for use in grades three to eight inclusive. The purpose has been to develop the basic skills and habits in the use of figures, and to provide a rich and varied application to the common needs of present-day life. All the more recent researches in the field have evidently been made use of. The books are brief but amply provided with drill materials, new type tests, and reteaching materials.

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Fundamentals of Office Practice

By Foster W. Loso, A.M., and Charles W. Hamilton, B.C.S. Cloth, 362 pages. Published by South-Western Publishing Company, Cincinnati, Ohio.

The management of a business office is subject to rules of practice which insure cohesion and efficiency in operation. Experience has resulted in innovations and improvements which the authors of this book have recognized.

Those identified with an office organization must not only be trained to serve in the capacity assigned to them, but must know something of the general routine and the relationships that obtain.

The first chapter deals with the outside contacts, such as the incoming and outgoing mail, the matter of dictation, letter organization, and letter personality. In line with this form of instruction the use of the telephone, telegraph, and radio service is discussed.

The machinery designed to expedite office operations, such as duplicating methods, listing and calculating apparatus, is fully explained. The reference books which go with every well-organized office also receive attention.

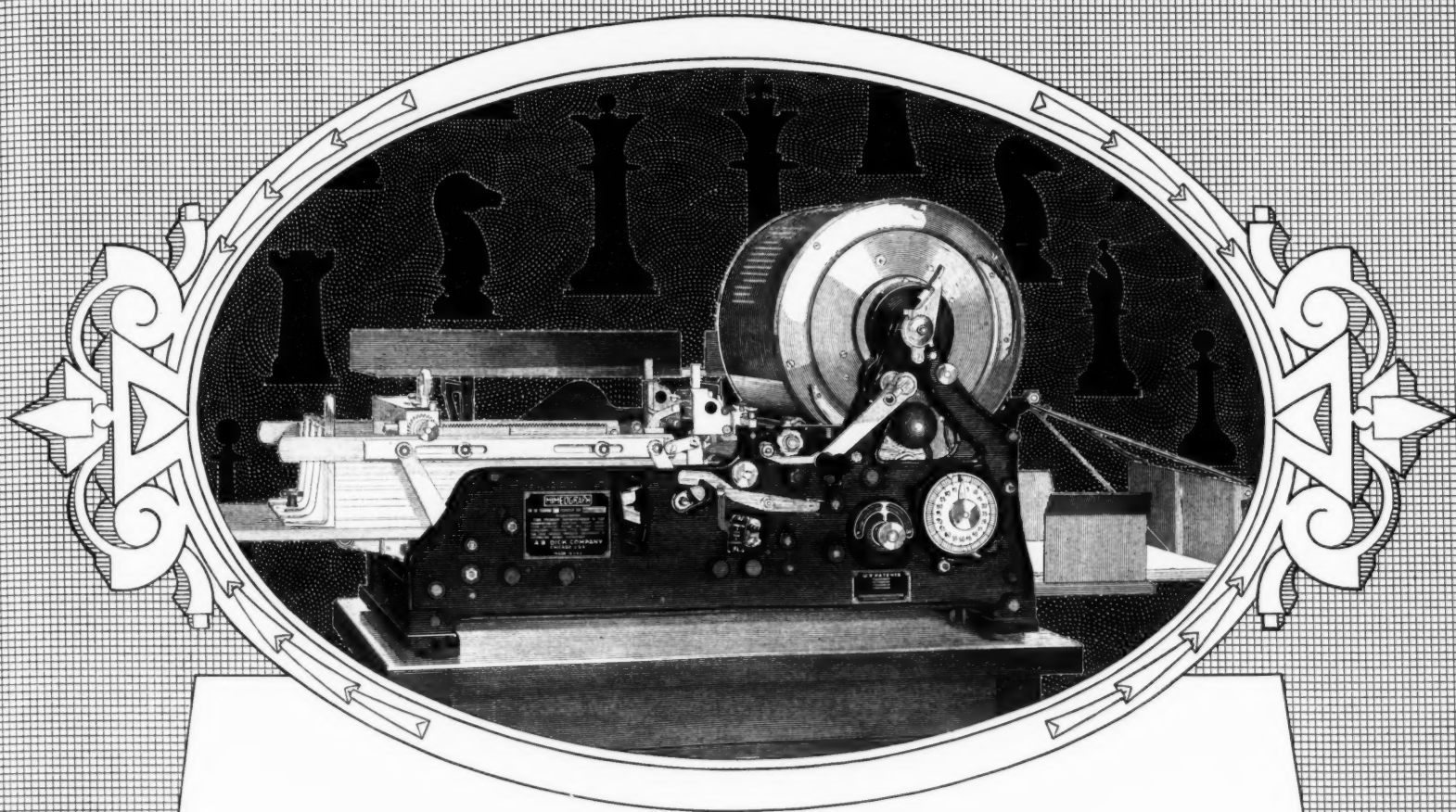
The appendix is devoted to use of language, syllabication, punctuation, compounds, titles, abbreviations, and the like. In fact, the whole book abounds in practical hints, suggestions, and directions. It is a well-organized, and carefully developed unit.

Introduction to the Use of Standard Tests

By S. L. Pressey and L. C. Pressey. Cloth, 272 pages. Price, \$1.80. World Book Co., Yonkers, N. Y.

This book, which is revised from the original edition issued in 1922, discusses the nature of standard tests, their interpretation and their use for improving instruction, the making of tests, the practical application of testing programs.

In its new form, which introduces the latest thought and the newest findings in the uses of tests, the book is still the simplest, most practical, and generally useful work for the average teacher and small-community school executive.



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The Editor's Mail Bag

LIABILITY OF A SCHOOL DISTRICT ON A CONTRACTOR'S BOND

Dear Mr. Editor:

I have read with great interest the clarifying exposition entitled, "Liability of a School District on a Contractor's Bond," by Leslie Childs, Esq., in your issue of July, 1931, based on the action of the Fort Worth Independent School District (appellant) v. Aetna Casualty & Surety Co., in which the decision of the lower court was affirmed.

Should this article not have carried a message of recuperation to the subcontractors of the work for the school district (and also for your many readers of other school districts), inasmuch as they have a remedy at law in the recovery from the architect of the losses incurred, as he had overstepped the bounds of his authority and, therefore, became personally liable for those losses?

As my letterhead indicates, I am not a lawyer, yet I have had as one of my hobbies, since 1884, the card-indexing of all cases in the architectural and kindred journals to which I subscribe, relating to building contracts, etc., that would be helpful to me in my profession as an architect.

A very few cases, in which the architect would have to reimburse the subcontractors (for client where liens could be filed) for his manifest dereliction of the duty incumbent on him by the terms of the contract, would help to eliminate many poseurs from the architectural profession, and that especially in schoolwork.

JAMES W. MACQUEEN.

Pittsburgh, Pa., July 9, 1931.

MUNICIPAL INTERFERENCE IN SCHOOL AFFAIRS

To the Editor:

Your editorial about municipal control over boards of education in your June issue is very

interesting to us, in South Carolina, in view of the fact that we operate here under an entirely different system from that referred to in your editorial.

In South Carolina the municipal authorities have no connection whatever with the school funds. Some school districts, frequently being geographically the same as municipalities, are entirely independent political subdivisions, and the tax levied for school purposes is not controlled by the city council.

The levy for school purposes is generally agreed upon by the legislative county delegation in consultation with the school authorities, and the tax collections are made through the county treasurer's office.

In Columbia, the city council has one representative on the school board—a member of the city council, assigned by the mayor. The council has no further connection with school affairs in the Columbia school district.

We have been very fortunate in being almost entirely free from politics in the management of the schools, and so far as I know there is no effort or desire on the part of municipal authorities to interfere in school matters.

F. C. WITHERS,
Chairman, Columbia
District School Board.

Columbia, S. C.,
June 15, 1931.

BOARDS OF EDUCATION

♦ Buffalo, N. Y. The board of education has effected a reduction of \$458,828 in the school budget to meet a threatened deficit in funds. The reductions have been made as a result of wage cuts in the janitorial staff, and reductions in the salary of Supt. E. C. Hartwell and the deputy superintendents. The salary of the superintendent was reduced from \$15,000 to \$12,000.

♦ The Minnesota School-Board Association has created a committee to cooperate with the state department of education. The members appointed are J. P. Brendel, Elbon Lake; Dr. E. A. Hintz,

New Ulm; and B. G. Featherstone, Red Wing.

♦ Dayton, Ohio. The school board has approved a resolution, calling for the closing of the Dayton Junior Teachers' College in June, 1932. The action is the result of a long discussion on the question of eliminating the college as a means of retrenchment. It was pointed out that the college cannot maintain itself without a larger budget, and this would be impossible because of the steadily shrinking school revenues.

♦ Dayton, Ohio. A group of Dayton stationers and office outfitters recently appeared before the school board asking that the members be more considerate of bids presented by the local merchants. It was charged that the board members had been unfair in the handling of school equipment and stationery bids. Attention was called to the fact that vocational teachers, with no overhead and no taxes to pay, have competed with the local office outfitters in selling supplies to students at lower figures than those offered by the merchants.

♦ Cuyahoga Falls, Ohio. The school board has adopted a recommendation of Mr. C. E. Nihousen, a member, that purchases of school supplies be approved by board members before contracts are awarded. Under the new policy a limit of \$100 has been set for purchases without the board's approval. Formerly, the purchase of supplies has been in charge of the superintendent of schools. It is expected that the work will be assumed by A. B. Season, clerk-treasurer of the board.

♦ The proposal to consolidate all educational administrative bodies in Wisconsin into a centralized state board of education was killed in the state assembly by a vote of 62 to 29. The bill sought to eliminate the existing boards of vocational education, trustees of Stout Institute, the normal-school regents, university regents, and school for the blind and deaf, as well as the office of state superintendent.

In place of these departments, it was planned to create a department of education, composed of fifteen members appointed by the governor subject to confirmation by the senate.



From School Executives Who Know —

"I'm sure the children will take a greater interest in their writing exercises if they are equipped with Washable Skrip which flows and writes nicely and makes such an attractive appearance on the paper. I'm also sure that the exercises will be more effective with Skrip, whose writing and flowing properties have been developed to such a fine point."

"Skrip is used almost exclusively in our work in the Business College, and we recommend it highly for business needs and beautiful penmanship."

"We have been experimenting for two years with the various brands of writing fluids on the market, and it is our opinion that Skrip will serve our purpose better than any other kind."

"Writing fluid made from powder by janitors usually is too heavy or too thin. It evaporates quickly and soon becomes so coagulated that it clots even when mixed with great care."

"We find that there is a very great advantage in uniformity of writing fluid for all the pupils' school work, and we find the writing qualities of Washable Skrip to be especially suitable for our requirements."

"The washable feature is also an outstanding advantage of Skrip for school use, in that it may be readily washed out of the children's clothing if spilled accidentally, and it is also very desirable because it enables us to protect our building and furniture from the accumulation of unsightly ink stains which cannot be washed out."

"I am very glad to take this opportunity to recommend the use of Sheaffer's Washable Blue Skrip for practice work in all schools under my jurisdiction. I feel that there is a decided advantage in uniformity of equipment as well as method in any branch of education in a system of schools. I feel, also, that the writing qualities of Skrip have been developed to the point where it is a desirable writing fluid for the student's writing exercises in any group of schools."

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• [Washable Skrip, in five colors, for school and home use; Permanent Royal Blue Skrip for business, record and legal work.] •

Where the writing fluid for pupils' use is the same yesterday, today, and tomorrow, their every effort is directed to better writing, without fussing over the quality and character of the writing fluid . . . Skrip is always the same.

Ordinary writing fluid splashes on floors, desks, and clothing are ineradicable, indicate slovenly habits . . . Washable Skrip washes out easily in soap-and-water.

Hand-mixed writing fluid clogs, sputters, blots, and runs. Skrip is always uniform, and writing exercises always neat.

Farsighted school authorities recommend Skrip. The advantages are obvious. Skrip is *infinitely more efficient, more modern, more all-'round useful, than any other writing fluid you can buy!* Read the statements above, from school executives who know. There's the best proof!

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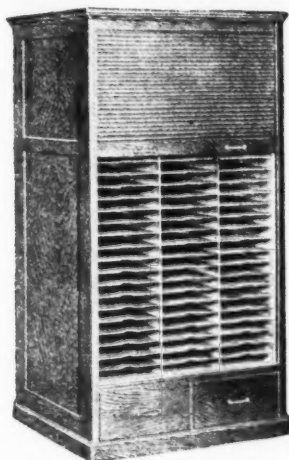
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Administrative Policy of a City-School District

Dr. H. H. Lowery, superintendent of schools of the Fordson School District at Dearborn, Mich., has recently issued a statement, outlining the administrative policy of the board of education as a guide to the various executive officers and their assistants. Dr. Lowery writes:

"The administrative policy of the Fordson School District has been quite definitely determined by the board of education and it is the most earnest desire of the superintendent of schools to see that the plans and instructions are followed. The administrative force must prove to the board's entire satisfaction that our service comes from loyal and enthusiastic individuals who are ever ready to give their best to the cause of education.

"This scheme does not include any part of our organization except what is strictly instructional. We are happy in our relations to the splendidly organized business department. We are concerned in the coördination of the entire organization and administrators are expected to perform any duties necessary with any department.

"The principal in our system is a supervising principal, possessing through the superintendent's office necessary authority and responsibility that he can be charged definitely with the success or failure of his school to measure up to required standards and is directly responsible for the discipline, proper instruction, the placement of his teachers, arrangement of the program of studies and direction of assistance received from supervisors and group chairmen to prevent confliction with the school's daily program. It is his duty to coöperate with the supervisors and group chairmen to the end that the program of studies shall be presented in uniformity in all the schools of the district and make it possible for this assistance to register to the end that no school shall be considered a barrier to proper advancement in any subject.

"The general supervisor will have charge of co-

ördinating the instruction in the different schools, arranging the proper time allotment for respective subjects, have supervisory control over the make-up of the program of studies and lend every assistance possible to make the classroom instruction modern and efficient. In order to accomplish the best of results, he will act as the general director for the activities of the group chairmen and through the superintendent approve all subject matter and materials selected by the respective group chairmen in all the elementary and junior high schools. The senior high school principal through the superintendent will be responsible for the tenth, eleventh and twelfth grades in all particulars and have supervision over the group chairmen for these grades. In the matter of necessary assistance for the general supervisor in the primary grades, some one of the principals or one from the teaching staff who has had superior training and possesses exceptional ability in early elementary work will act as an assistant in accordance with the plans of the board of education.

"The group chairmen are held responsible for the courses of studies in their departments, select and organize subject matter and materials to be used. They are to do a limited amount of supervision in order to stimulate the proper presentation of subject matter, to correlate the various units of work, and to articulate the educational setup of their respective subjects. Their relation to the principals, general supervisor, and school units has been definitely stated in preceding paragraphs."

SCHOOLS PATRONIZING LOCAL MERCHANTS

At Pontiac, Mich., the question of patronizing local merchants in purchases for the schools recently came under discussion. Clarence K. Patterson, president of the board of education, and Wesley B. Sibley, purchasing agent for the board, made

it clear that the home merchants received all the business that could properly go to them.

"I would like it understood right now that persons believing the school board is not buying supplies locally are entirely wrong," Mr. Sibley said. "Hardware, paints, lumber, building supplies, and every possible thing we can buy is purchased locally. Bulk paper and books can't be bought here and we must go elsewhere. If we could buy here, I would only be too glad to do so; but at the same time I've got to produce results. I am a Pontiac man; I want to buy here if I possibly can, but I'm not buying for myself. I'm buying for the board and we must have the best products at the lowest prices."

HYGIENE AND SANITATION

In addressing a Wisconsin rural-school-board convention Dr. Frisbee, health expert, said: "Give the children plenty of pure water. Dig your wells deep enough—50 feet will secure pure water; 20 feet is subject to suspicion of contagion."

♦ Supt. F. T. Vasey, of Springfield, Ill., has issued a report on the lighting systems of the various schools. Mr. Vasey found that 50 per cent of the classrooms in the older buildings have poor lighting systems, and that between 5 and 6 per cent of the pupils have defective vision. It was suggested that a change in window shades might correct the condition.

♦ The attorney general of Minnesota has ruled that a school board may not employ a dentist to render dental services even though the pupils are unable to bear the expense of such service. The ruling was given to the school board of Eveleth where a group of women's organizations had urged the appointment of a dentist for taking care of the teeth of the pupils who could not pay.

♦ MR. RAYMOND C. BURDICK has been reelected as superintendent of schools at Watertown, N. Y., for a seventh year.

♦ PROF. IRVING MUNSON has been reelected as superintendent of the Momence Community High and Graded Schools at Momence, Ill., for a twelfth consecutive term.

There are more DUDLEY LOCKS in American Schools than any other make



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"Mercy..what a racket!"

SCHOOLROOM noise usually results in two things—frayed nerves and poor work.

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Controlling sound is the function of Acousti-Celotex. When applied to ceilings these sound-absorbing tiles subdue assembly hall echoes, classroom noises, corridor, gymnasium, swimming pool, and manual training room racket.

Acousti-Celotex is quickly applied over your present ceilings, and may be decorated repeatedly with any type of paint.

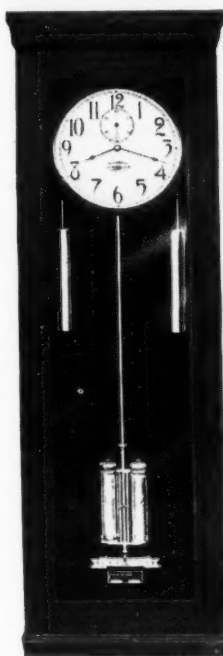
Find out about noise control in your school before the fall term starts. Write us for the name of the Acousti-Celotex contracting engineer in your community. *No obligation.* The Celotex Company, 919 N. Michigan Avenue, Chicago, Illinois.

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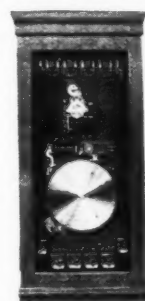
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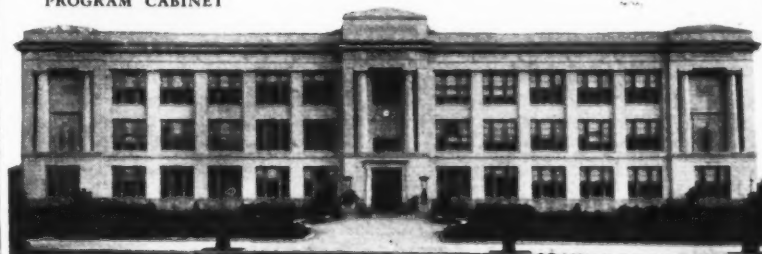
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Give your students the eye protection that Draper Adjustable Shades afford—for they may be let down from the top, admitting the valuable *top light*, which is always the *best light*. Made from special Dratex shade cloth, these shades keep out all glare but admit a maximum amount of soft, luminous light.

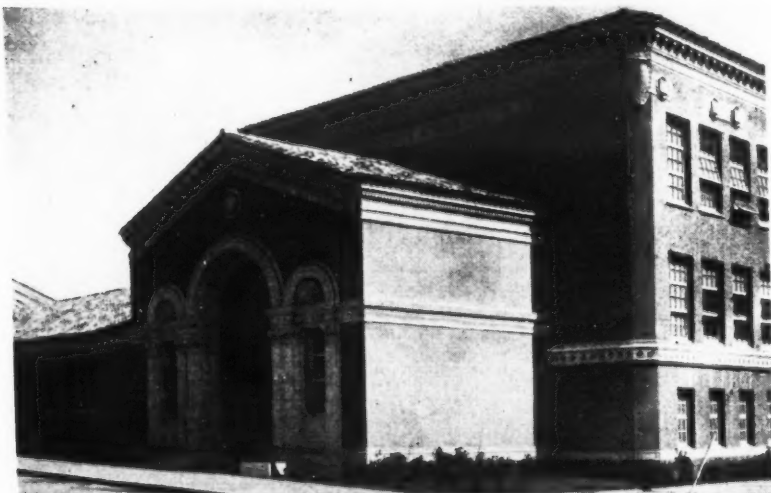
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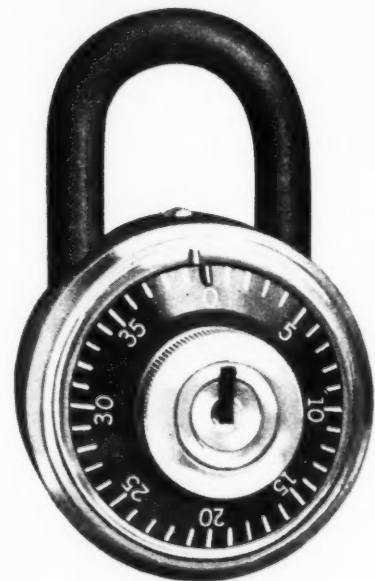
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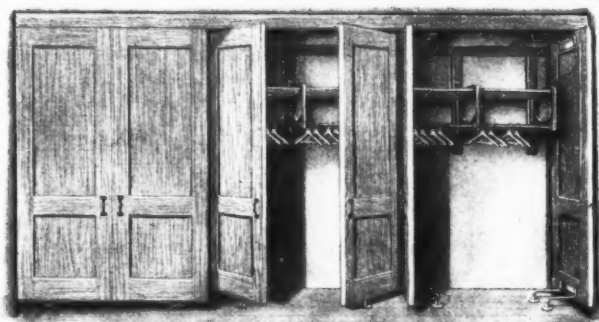
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school classroom wardrobe, low in cost yet meeting every demand of the most exacting. This wardrobe is made for plaster ends, backs and ceilings; no jambs nor trim being required. When so desired blackboards can be furnished for the doors, giving a continuous black-board surface.

The "Vanishing Door" hinges on which the doors are hung are made with double pivoted arms and swing the doors back into the wardrobe entirely out of the way. There are no noisy tracks nor rollers to stick or bind, nor intricate mechanism to get out of order. These hinges are guaranteed to last as long as the building.

All wardrobes are furnished complete in the knockdown, with all woodwork cut to size, and only need to be nailed in place. The hinges are easier to put on than common butt hinges. The entire cost of installation is small.

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School Building News

♦ Massillon, Ohio. The school board recently discussed the pros and cons of a plan for effecting a saving of \$2,000 in school insurance rates over a five-year period through a reappraisal of the school property. It was pointed out that the school board is carrying too much insurance based on the present building costs and depreciation of property. While the board members were favorable to the plan, no definite action was taken and the matter was laid over for future action.

♦ Joplin, Mo. The North Junior High School, now under construction, will be completed and occupied in January, 1931, at a cost of \$253,000. The architects of the building are T. W. Williamson & Co., of Topeka, Kans.

♦ Detroit, Mich. During the present summer the school board will complete a building program calling for nearly 30 buildings, or building units, for which an expenditure of \$5,488,647 will be made. The completion of these buildings will provide seats for more than 15,000 pupils. Of the several building jobs, the Chadsey School, the largest, will care for 1,200 students and will cost \$814,458. The Post School, with seats for 1,600 students, will be erected at a cost of \$597,355.

♦ Moberly, Mo. The board of education has completed an extensive school-building program, consisting of two grade buildings, a junior high school, and a junior college building. The junior college has recently been reorganized on the four-year unit plan and the entire school organization is now operated on the 6-4-4 plan.

♦ Longview, Tex. By a 5-to-1 vote, the citizens have approved a bond issue of \$175,000 for school-building purposes.

♦ Commencement exercises for the annual janitorial-engineering school were held June 18 at Minneapolis, Minn., with Principal L. C. Helm presiding. The Tribune cup award was given to Frank

W. Wilkenberger. A class of 48 was given diplomas.

♦ Boston, Mass. Under a new law, the school-house commission is required to erect school buildings in accordance with the building department's rules. The law was vigorously opposed by Mr. Richard J. Lane, head of the schoolhouse commission.

♦ Jonesboro, La. The school board of the Hodge-Jonesboro School Dist. No. 23, of Jackson parish, recently sold \$150,000 in school bonds for school-building purposes. The bonds were approved by the citizens at an election on June 30.

♦ Rochester, N. H. A two-story elementary school, containing nine classrooms, an assembly room, and a playroom, has been erected during the past year. The building was erected at a cost of \$70,000.

♦ South Glens Falls, N. Y. The board of education adopted a building program in August of last year, which it has promoted vigorously during the year. The program was delayed somewhat by a difference of opinion over two proposed sites. The issue revolved about the question as to whether the high-school charter should be retained and a new building built, or whether the charter should be given up and the secondary pupils sent to other communities in the vicinity.

The proposition was put to a test and the proposal to buy a school site was carried by a vote of 399 to 236. The architects' estimates will be received and the bond issue will be voted upon during the summer.

Mr. Milton Crandall has been employed as architect for the school project, with Mr. Carl Clark and Mr. Frank H. Wood, of New York City, as associate architects.

♦ New Rochelle, N. Y. The school board has begun the construction of two wings for the senior high school. The first wing will be completed in January, 1932, and the second in June. Messrs. Guilbert & Betelle, Newark, N. J., are the architects. The new Jefferson School will be completed and occupied in January next, and the Henry Barnard School will be opened in September.

♦ The Lincoln School and field house was dedicated at Wisconsin Rapids, Wis., during the week

of May 26. The building, which is fireproof, is three stories high, and cost \$600,000. It has accommodations for 1,000 students and was erected by Childs & Smith, architects, of Chicago, Ill.

♦ Watertown, N. Y. The school board has recently completed an extensive school-building program, involving an expenditure of \$1,000,000. The program, which required three years for completion, included the erection of two junior high schools, one elementary school, and additions to two schools.

♦ Cobleskill, N. Y. By a vote of 4 to 1, the voters have approved a bond issue of \$550,000 for the erection of a junior high school.

♦ Branson, Mo. By a large majority, the citizens have approved a bond issue of \$20,000 for the erection of a senior high school.

♦ Rockford, Ill. Tax-anticipation warrants in the amount of \$90,000 for building purposes, and \$100,000 for educational purposes, have been issued and sold at 5 per cent interest against the 1931 taxes.

♦ Peoria, Ill. The school board has passed its annual tax levy to raise \$1,465,000 in 1931 taxes. For the educational fund, the levy is \$990,000, and for the building fund \$475,000. The total levy is \$50,000 less than for 1930.

♦ Joliet, Ill. The school board has adopted a budget, calling for an expenditure of \$692,005 for the next school year. This is a decrease of \$10,000 under the budget of last year. A tax-levy ordinance asking for \$500,000 for educational purposes and \$187,500 for building was adopted.

♦ Addison, Mich. The school board has voted to reduce the school-tax rate for 1932 by 3 mills. The board also voted to establish a sinking fund to retire the first series of school bonds in 1935.

♦ Alma, Mich. The school budget for 1931-32 has been reduced by \$28,000, or 21½ per cent, without impairing the efficiency of the school system. This year's budget will be the lowest in eleven years.

♦ Ann Arbor, Mich. The school board has adopted a budget, which calls for a total of \$682,224 to be raised by taxation. The budget represents a decrease of \$50,000.

Rural Supervision of Instruction in the United States

Who and what is the rural supervisor of instruction in the various states in which special supervision is provided for rural schools? What duties does the person who assists county superintendents of schools perform? What is necessary to improve the conditions of the rural supervisor in order that she may perform more effectively her important work for the improvement of rural schools?

Dr. William E. Cole, of the department of rural education in the New York State College of Agriculture, has recently completed a national study which provides specific answers to the foregoing questions, and which rather comprehensively pictures the present situation. The study, which was made in some 27 states, indicates that in the case of 318 white and 82 colored rural supervisors, a high standard of service is maintained but, generally speaking, conditions for satisfactory efficiency are not provided.

While Dr. Cole warns that the study must be interpreted from the standpoint of any detail which is considered, the picture which he draws is of general interest to school administrative authorities. He writes:

"We find that the median rural supervisor is an unmarried woman. Attention should be given to the fact that although the median rural supervisor is a woman, the position of assistant county superintendent or district superintendent is likely to be filled by a married man. The family of the married supervisor, either male or female, is likely to be either a childless family or a one-child family.

Pen Picture of Rural Supervisor

"The median rural supervisor is 39 years of age, was reared either on a farm or in a village, receives a salary of \$2,250 annually, and is on duty for a period of ten months. The median white supervisor receives \$2,500 annually and the median colored supervisor receives \$950 annually. The correlation between salary and training is $.507 \pm .08$ and the correlation between age and salary is $-.12 \pm .04$. A white supervisor is likely to be provided with transportation facilities for supervision, while the colored supervisors in many instances are not.

"The median rural supervisor has had a professional training equivalent to a four-year college course. A significant percentage (24.8) of those participating in the study have had one or more years of graduate work and 39.2 per cent have had professional training equivalent only to a two- or three-year normal course. The median supervisor has been enrolled in summer school within the past two years. Courses dealing specifically with supervision have been taken to the extent of 10 to 14 semester hours; 10 to 14 semester hours of work have been taken in courses closely related to supervision; and 10 to 14 semester hours' work have been taken in courses remotely related to supervision. The median rural supervisor reads regularly three or four professional magazines and belongs to at least two professional organizations.

The Supervisor's Service

"The median rural supervisor has been in educational work for 16 to 20 years. Of this experience, 9 to 12 years have been in teaching, including experience in either a one- or a two-teacher school, and 5 to 8 years in supervision. The way into rural supervision is through teaching, and there is slow turnover in the profession when once an individual is admitted. This is evidenced by the fact that the median supervisor has held her present position for 4 years, while a large percentage have held their positions for a much longer time.

"The median supervisor of all the states supervises 29 schools. These schools include 57.8 per cent of one-teacher schools, 16.5 per cent two-teacher schools, and 25.7 per cent are larger schools. From 70 to 79 teachers are supervised by the median supervisor, and under these teachers are enrolled from 1,500 to 1,999 pupils. The most common grade combinations supervised are kindergarten through grade one, grade one through grade eight, and grade one through grade seven.

"The median supervisor visits from 15 to 19 classrooms per week. In his supervision the chief supervisory methods employed are: classroom visitation followed by an individual conference with the teacher; group conferences with teachers having the same problems or similar problems; general teachers' conferences; demonstration teaching by the supervisor; demonstration teaching by supervisor teachers; intervisitation between teachers and the use of mimeographed or printed instructions. Eighteen per cent of the supervisors frequently announce their proposed visits in advance, 24 per cent do not, and 55 per cent sometimes announce their visits in advance. The median rural supervisor observes the work of each teacher on an average of once a month and for a period of 90 to 104 minutes. Thirty-three and .5 per cent of the supervisors frequently use some form of observation chart or rating scale, 26 per cent never use such scales, and 31.5 per cent sometimes make use of these devices.

Measuring Results

"As to the methods whereby rural supervisors measure the value of their supervision, 59.7 per cent measure their supervision partially in terms of increased pupil interest; 56.5 per cent in terms of increased professional ability of teachers; 47 per cent in terms of increased community interest in education; 45.2 per cent by means of initial testing at the beginning of the school year followed by testing at the end of the school year and comparison of the initial score with the final score, and 36.7 per cent by means of educational testing and comparison with age and grade norms. Other methods used in measuring supervision are recorded in smaller percentages.

"There is a general tendency for teachers to request supervisory aid. The nature of these requests varies greatly, but a large percentage are requests on how to teach specific subject matter, where to find suitable subject-matter materials, how to handle disciplinary problems, and requests for help in the solution of the personal problems of teachers.

"As to the difficulties rural supervisors encounter in their supervisory work, we again have a variable collection. Outstanding supervisory difficulties are too heavy supervisory loads, poorly qualified teachers, too much time consumed in traveling from one school to another, teachers untrained to expect and seek supervisory assistance, lack of access to professional library, inadequate school equipment, bad roads, low salaries, and insufficient funds or facilities for transportation."

Dr. Cole suggests the following conclusions as obvious and worthy of record:

What the Study Reveals

"1. Rural supervisors are underpaid. This is not true in all instances, but taking the group as a whole the salaries appear inadequate to cover the work done and the cost of the necessary expense entailed in travel. Of the two groups, the white supervisors are much better paid than the colored supervisors even when we consider that the training of the colored supervisors is somewhat less than that of the whites.

"2. Salaries are not based upon experience, age, training, or supervisory load. Great variations exist within states and between states. In most instances graduate training has not resulted in the increased financial remuneration that one would naturally expect to result from such training.

"3. A great many supervisors in several of the states studied show a lack of academic training. This holds true for the length of the training period and in the field of supervision and in closely related fields. Again this situation is more serious among colored supervisors.

"4. Transportation facilities are inadequate or totally lacking in many instances. This situation is also more acute among colored supervisors.

"5. Rural supervisors are overloaded in respect to the number of schools supervised and the number of teachers supervised. This situation is partially the result of the attempt of one supervisor,



E. P. NUTTING
Superintendent of Schools,
Moline, Illinois

Mr. E. P. Nutting formerly principal of the high school at Moline, Ill., has been elected superintendent of schools, to succeed Mr. L. A. Mahoney, who will become assistant superintendent.

Mr. Nutting came to Michigan from Missouri, in 1880. He was graduated from the Howell High School in 1896, and then entered upon a classical course at the University of Michigan, graduating with the A.B. degree in 1902. He began his teaching career as an instructor in Greek and Latin in the Howell High School. In 1902 he became principal of the Mt. Clemens High School, where he remained until 1905, when he accepted the principalship of the high school at Moline. During the illness of Mr. Mahoney, Mr. Nutting served as assistant superintendent for the second semester of the current school year.

in many instances, to supervise the teachers of an entire county.

"6. Supervisors are handicapped in their work by too heavy supervisory loads; by poorly qualified teachers, too much time spent in traveling from one school to another; by teachers untrained to expect, seek, and use supervisory assistance; lack of professional library for the supervisor's use; inadequate school equipment; bad roads, and other difficulties which are less general for the group as a whole.

"7. Supervisors receive the hearty cooperation of their superintendents and principals. In some instances the principals have not been trained in supervision, but they are cooperative."

For Better Supervisors

On the basis of his findings, Dr. Cole makes seven distinct recommendations for the improvement of the status of rural supervisors which, in his opinion, will be effective for improving all supervision in country schools. He suggests the following:

1. There is need in the various states for the establishment of more uniform salary schedules for rural supervisors. Such salary schedules should be based upon:

- a) The formal professional training of the supervisor, including work taken in approved summer-school sessions.
- b) Years of educational experience and nature of experience.
- c) Number of teachers supervised.
- d) Number of different classes of grades supervised.
- e) Expense involved in traveling from one school to another while carrying on supervisory work.
- f) Such schedules should be flexible enough to be adjustable to the variations of cost of living in various sections of the same state.

2. There is a general need for raising the salaries of colored supervisors. Although their professional training is somewhat below that of white supervisors, the differences between salaries paid white

(Concluded on Page 102)

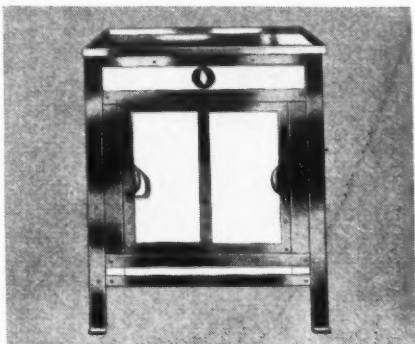
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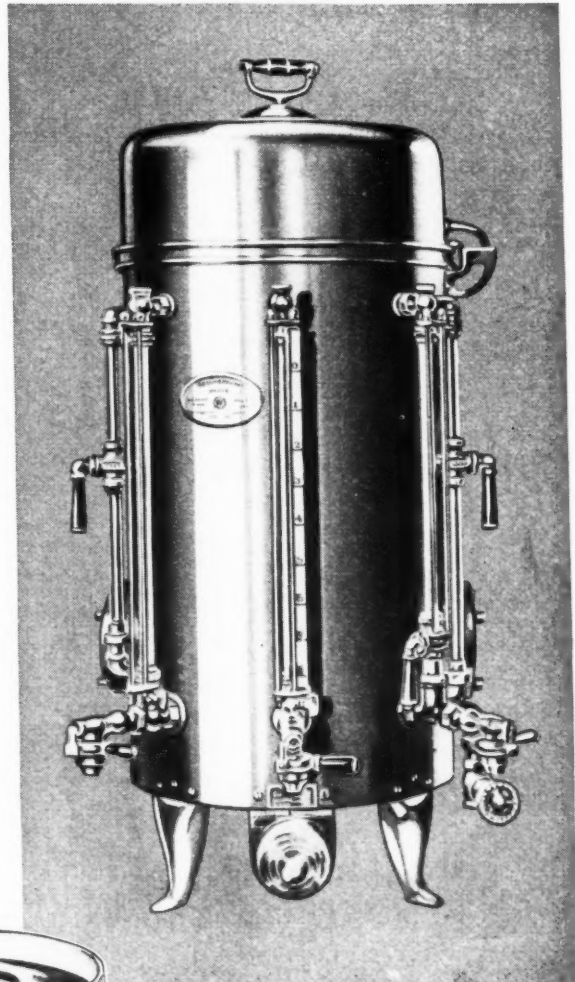
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(Concluded from Page 100)

and colored supervisors are greater than the differences in training and experience justify. Irrespective of race, professional merit should receive comparable recognition.

3. There is need in many states for certification requirements which will raise the standards of training required of supervisors. Obviously, along with these increased standards should be an increase in salary scale.

4. Rural supervisors should have more training in courses dealing specifically with supervision.

5. More attention should be given to the routing of supervisory visits in order to conserve time in traveling from one school to another.

6. The supervisory load should be decreased in many cases.

7. Rural supervisors might well direct some of their efforts to training principals to supervise the teachers in their respective schools.

PERSONAL NEWS

♦ DR. CHARLES CARROLL, state director of vocational education for Rhode Island, was on June 11 awarded the honorary degree of doctor of laws by Providence College at the annual commencement exercises of the college. Dr. Carroll holds four other degrees, one given by Brown University in 1898; one by Harvard University in 1901; one by Brown University in 1913, and another in 1915.

♦ DR. J. FREEMAN GUY has been assigned as first associate superintendent of schools of Pittsburgh, in the immediate capacity of representative of the superintendent of schools. Dr. Guy is a graduate of Wooster College and holds degrees given by that institution and Teachers College, New York City. In 1928, the University of Pittsburgh conferred the Ph.D. degree. He accepted the superintendency at Bellevue in 1925, but resigned in 1929 to become associate superintendent of schools in Pittsburgh.

♦ MR. J. D. DULL, of Otterville, Mo., has been elected superintendent of schools at LaPlata.

♦ MR. F. R. NORTON has been elected superintendent of schools at Auburn, Ohio.

♦ MR. LAWRENCE SIGSTAD has been elected superintendent of schools at Medford, Minn.

♦ DR. C. W. SHARPLES, who retired on June 15 as a member of the school board of Seattle, Wash., after completing nine years of service, was guest of honor at a dinner given by the school officials. Under Dr. Sharples' leadership great strides were made in building up the city school system.

♦ MR. S. K. McDOWELL, city superintendent of schools at Bloomington, Ill., has assumed the duties of business manager of the board of education. Miss Mattie C. Bishop, former assistant secretary, has become secretary to succeed the late H. G. Bent.

♦ MR. A. C. EDGE, of Bethlehem, W. Va., president of the Ritchie county board of education, entered upon his twentieth year in the office on July 1. Mr. Edge was appointed as clerk in 1911, and in 1921 was elected as president.

♦ MR. FRED ELLIS, a member of the high-school board at Armington, Ill., died at his home on June 28, following an attack of heart disease.

♦ MR. C. D. HEDBERG has been reelected as secretary of the school board of Cedar Rapids, Iowa, for the next year.

♦ MR. D. S. COOPER has been reelected secretary of the school board of Burlington, Iowa.

♦ MR. GEORGE R. GERARD, of Belleville, N. J., retired on June 26, after completing 27 years of service as supervising principal of schools.

♦ MR. A. S. CHENOWETH has been elected superintendent of schools at Atlantic City, N. J., to succeed Mr. C. B. Boyer, who has resigned because of having reached the age for retirement.

♦ MR. D. F. GAHM has been elected superintendent of schools at Pemberton, Ohio.

♦ C. E. BENDER, superintendent of schools at Columbiana, Ohio, who was seriously injured in an automobile accident, is on the road to recovery.

♦ SUPT. J. D. FALLS, of Ashland, Ohio, has been reelected for a four-year term, at a salary of \$5,000 a year.

♦ SUPT. DAVID KERR, of Oswego, Kans., has entered the graduate division of the Emporia Teachers' College where he is completing his major work for a master's degree in education.

♦ MR. O. E. RATCLIFF, of Lewisburg, Tenn., has been elected superintendent of schools at Oneida City.

♦ SUPT. R. R. SHELTERS, of Watervliet, Mich., has entered Columbia University, where he will take special graduate work leading to a doctor's degree.

♦ SUPT. C. H. GRIFFEY, of Adrian, Mich., has retired, after seventeen years of service.

HORATIO G. BENT DIES

Mr. Horatio G. Bent, for many years a leader in school affairs at Bloomington, Ill., died at his home on June 16, following an attack of heart disease. Mr. Bent was 73 years old.

Mr. Bent was born in New Orleans and came to Bloomington when he was a year old. He attended the public schools and was graduated from Illinois Wesleyan University in 1879. He then entered the law department from which he was graduated in 1882.

For some years Mr. Bent was a member of the law firm of Pitts, Bent & Lindley and was a professor in the law department of Wesleyan University. He served as a member of the school board from 1893 to 1896 and was reelected in 1898, serving until 1929. He was secretary of the board from 1893 to 1895, and president from September, 1899, to April, 1917. He then became business manager and served in that capacity until the spring of 1929, when he was elected secretary and continued in that capacity up to the time of his death.

BUILDING NEWS

♦ Brownsville, Tex. The voters have approved a bond issue of \$60,000 for a school-expansion program.

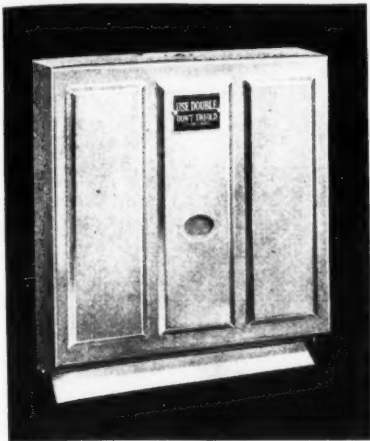
♦ Fort Worth, Tex. A resubmission of the \$4,750,000 school-bond issue in a future election has been proposed by local organizations.

♦ Beaumont, Tex. The school board has sold \$60,000 in school bonds to a banking house at Temple, on a bid of par, with accrued interest, and a premium of \$462.

♦ Lima, Ohio. Bath township citizens, at the regular November election, will be asked to approve the consolidation of ten schools and a bond issue of \$100,000 for the construction of a centralized school building.

SAFEGUARD.

Children's health



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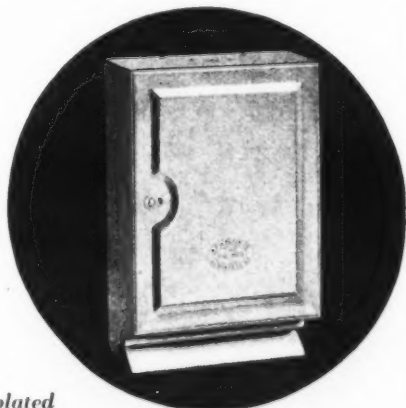
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Don't expose the children in your school to these grave dangers of contagion—especially when you can safeguard their health by equipping your washrooms with *Onliwon Paper Towels* and *Toilet Tissue*. Onliwon Service passes every hygienic test because it means individual, clean, fresh towels and pure, non-irritating toilet tissue, protected from dust and dirt by Onliwon Cabinets. A. P. W. Onliwon is the original, sanitary washroom service.

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• A. P. W. is also the largest manufacturer of single-fold towels as well as the oldest manufacturer of roll toilet tissue.

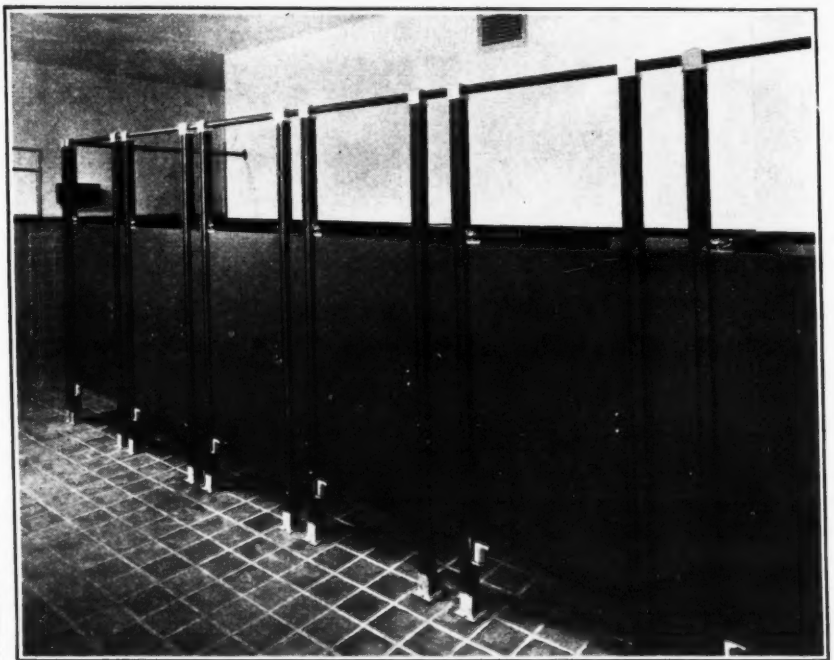


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AUTHORITY OF BOARDS OF EDUCATION TO ENFORCE RULES

(Concluded from Page 43)

nated whenever, in the opinion of the board of health, vaccination was necessary to safeguard the public health and the public safety. The constitutionality of the statute was challenged before the Supreme Court of the United States. In the opinion of that court, the act in question was not unreasonable, arbitrary, nor oppressive. Neither did it deprive any person of liberty guaranteed by the Federal Constitution. Similarly, the state may authorize or require boards of education to make vaccination a condition of school attendance regardless of the existence or nonexistence of smallpox in the school district.

"The constitutionality of statutes which authorize or require the exclusion from public schools of all unvaccinated pupils has been tested in a great number of cases, but the courts have, without exception, sustained such legislation as a valid exercise of the police power of the state. Such legislation is not an arbitrary and unreasonable restraint upon personal liberty; it does not constitute the delegation of legislative authority; it does not interfere with rights of conscience; and it is not special nor class legislation although it affects only one class of persons; namely, school pupils.

"The reasoning of the courts is well illustrated by an opinion rendered by the Supreme Court of Errors of Connecticut. A statute provided that the school visitors of any town might require that every child be vaccinated before being permitted to attend the public schools. The statute was attacked upon the ground that it violated a provision of the state constitution which guaranteed equality of rights. It was also contended that the act violated that provision

of the Fourteenth Amendment which guarantees to all the equal protection of the law. In holding that the act violated neither the state nor the Federal Constitution, the court said:

"The duty of providing for the education of the children within its limits, through the support and maintenance of public schools, has always been regarded in this state in the light of a governmental duty resting upon the sovereign state. It is a duty not imposed by constitutional provision, but has always been assumed by the state, not only because the education of youth is a matter of great public utility, but also and chiefly because it is one of great public necessity for the protection and welfare of the state itself. . . . This (the right of school attendance) is a privilege or advantage, rather than a right in the strict technical sense of the term.

"This privilege is granted and is to be enjoyed upon such terms and under such reasonable conditions and restrictions as the law-making power, within constitutional limits, may see fit to impose; and, within those limits, the question what terms, conditions, and restrictions will best subserve the ends sought in the establishment and maintenance of public schools is a question solely for the legislature and not for the courts. The statute in question authorizes the committee to impose vaccination as one of those conditions. It does not authorize or compel compulsory vaccination; it simply requires vaccination as one of the conditions of the privilege of attending public school. . . .

"While the courts will not hold that vaccination is a preventive of smallpox, they will hold that a board of education has the right to act upon the common belief that it is such a preventive. In a Pennsylvania case, for example, the court refused to issue a writ of mandamus

to compel the school board to admit unvaccinated pupils at a time when smallpox existed in the district and in near-by towns.

"A pupil cannot defeat the operation of a rule requiring vaccination on the ground that it violates rights of conscience. In so holding, the court in a Texas case pointed out that 'the control of the schools in San Antonio is given by law to the San Antonio board of education, and not to individual parents, no matter how correct their consciences, convictions, faith, and religious beliefs may be.'

"According to the great weight of authority, a school board cannot, unless authorized to do so by statute, make vaccination a condition of school attendance in the absence of an actual or imminent epidemic of smallpox. The courts reason that boards of education, being creatures of the legislature, can exercise only such powers as are expressly or impliedly granted. Authority to enforce a general, continuing rule requiring vaccination as a condition of school attendance, regardless of the existence or nonexistence of smallpox, is a power which cannot be implied nor inferred.

However, some courts hold that a school board may, without specific statutory authority and in the absence of smallpox, exclude from the public schools pupils who do not present a certificate of vaccination. In a North Carolina case, during an epidemic of smallpox in the town of Durham, the school board passed a rule excluding from school pupils who had not been vaccinated. Action was brought to require the admission of an unvaccinated child. At the time the court rendered its decision there was, it seems, no danger of the spread of smallpox. Nevertheless, the court sustained the rule in language intimating that the rule would have been upheld even in the absence of smallpox."

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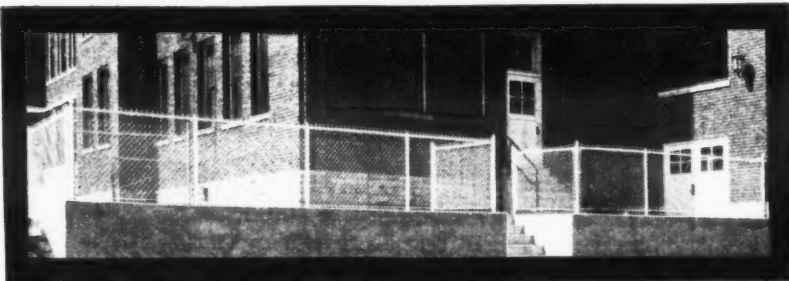


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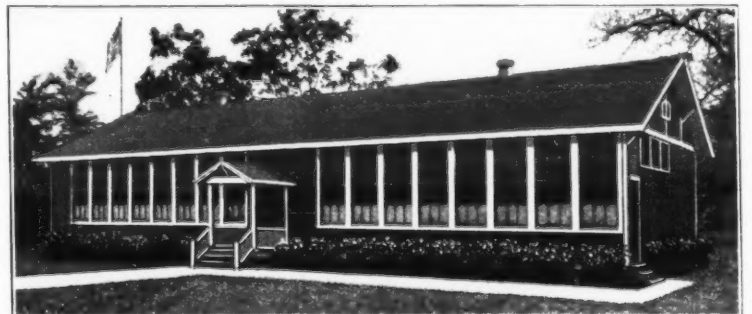
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CIRCLE A PORTABLE BLEACHERS

Steel . . . Wood

COUNTY BOARDS OF EDUCATION: THEIR ORGANIZATION AND DUTIES

(Concluded from Page 32)

Ideal Board: The best board is composed of 5 members.

Methods of Selection

Tennessee Boards: In 63 counties boards are selected by the county courts, and in 12 counties they are elected by popular vote.

Ideal Board: The members of the ideal board are elected by popular vote.

Territory of Selection

Tennessee Boards: In 54 counties board members are selected from the county at large, while in 38 counties the members are selected from districts.

Ideal Board: Members of the ideal board are selected from the county at large.

Length of Terms

Tennessee Boards: The terms of office of board members vary from 2 to 7 years in Tennessee, and there is no overlapping of terms in 14 counties.

Ideal Board: Members of the ideal board serve for 5 years and their terms overlap.

When Elected

Tennessee Boards: Board members are selected by the county courts of Tennessee at the July term, or by popular vote at the regular election in August.

Ideal Board: Members of the ideal board are selected at a special election, held at the schools, preferably in the spring.

Compensation

Tennessee Boards: In three of the Tennessee counties board members serve without pay, while in the other counties they are paid from \$1.50 a day to \$3,000 a year. The total cost of boards vary from \$0 to \$7,800 a year.

Ideal Board: Under an ideal system the boards serve essentially without pay except for necessary expenses incurred while attending board meetings.

Number of Meetings Held

Tennessee Boards: The number of meetings held by the boards in Tennessee varies from 4 to 52. The law

provides for four regular meetings and as many called meetings as are thought necessary.

Ideal Board: Regular meetings are held once a month and few called meetings are held by the ideal board.

Women on School Board

Tennessee Boards: There are only 12 women on county boards of education in Tennessee out of a total membership of 670.

Ideal Board: Authorities differ as to whether women make good school-board members. Older writers are of the opinion that women do not make good board members, while later writers seem to think that sex is not a matter for serious consideration, one way or the other, in the selection of school-board members. The ideal board probably has some women members.

Qualifications

Tennessee Boards: No educational qualifications are required of Tennessee county board members. They range in education from a third grade to a doctor of philosophy. The state law requires that board members be resident voters of the county; citizens of recognized integrity, intelligence, and ability to administer the duties of the office.

Ideal Board: The ideal board is a lay board, and it has no high educational requirements for membership. Members are required to have had successful business experience, to have a wholesome interest in the public schools, to be willing to employ professionally trained persons, and to delegate the actual running of the schools to them.

It is evident from the facts presented that the organization and work of county boards of education in Tennessee must be considerably altered if the state is to conform to the best practice and thought. It would seem to be evident also that the welfare of Tennessee schools demands a considerable change in the duties performed by the county boards. Probably the most important principle which should be recognized is that the board's greatest responsibility to the people is to see to it that the schools are efficiently administered. The choosing of an efficient county superintendent, thoroughly and professionally qualified, becomes of foremost importance.

THE USE OF BLACKBOARDS IN ELEMENTARY SCHOOLS

(Concluded from Page 41)

nection with the amount of blackboard in place. Our typical "new" classroom will now contain a median of 39.0 lineal feet of blackboard; 82.3 per cent of the rooms will have the boards located on the front and side walls; 17.7 per cent, or 32 rooms will have additional boards at the rear of the room. The other factors are about the same.

It is hoped that this study will answer, in part, even if not as a whole and definitely, some of the questions raised more or less frequently in connection with school-building planning and checking. The reliability of the inferences must be left to the judgment of the reader—he may accept or reject or make reservations as it pleases him.

THIRTEEN PRINCIPLES OF SCHOOL ACCOUNTING IN ACTION

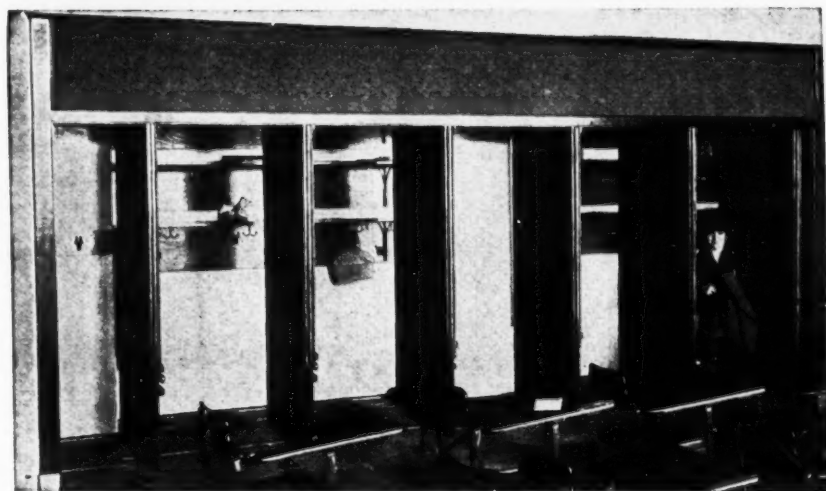
(Continued from Page 45)

It may be inferred from Mr. Morse's observation that some of the New Jersey school clerks do not fully comprehend all the details of the work.

Ohio has given little, if any, consideration to the training and capacities of clerks of small school districts. The Bureau of Inspection and Supervision of Public Offices has designed a very flexible and effective system which can be expanded or contracted to meet the needs of any district, and which will reflect at any time the actual financial status of a school district, if all financial transactions are properly entered. The writer's study of the books of 29 Ohio school-district clerks shows very conclusively that many clerks of this state have not the remotest idea of the significance of the operation and purposes of the system.⁷

⁷See footnote No. 5.

When Schooldays end . . .



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Assets and Liabilities

12. These five states do not require school boards to keep accurate accounts of assets. No forms are designed or suggested for them. Not long ago 18 principals and superintendents were asked if they had on record the number and kind of pupil desks in their systems. Only one had such a record, and it gave only the number located in each room of the system. He had no record of the cost of these desks, or the time they were purchased. It is a rare thing to find a board which keeps account of furniture and fixtures, equipment, or even buildings.

All these states record the annual expenditures for buildings, equipment, furniture, and so forth, but no permanent account is set up in a ledger for any of them.

They do a better part, however, for their liabilities, as each state has arranged for the permanent recording of bonds and long-time notes. Even short-time notes are given special attention. As for bills payable, New Jersey and Ohio are the only ones which provide for them.

Fund Accounting

13. In the full meaning of this principle, it is not applicable to any one of these states, because none requires that asset accounts be kept in a permanent form. Fund accounting in its full significance simply means that all asset accounts are treated as funds, that they are kept on the books at cost price as long as they are in use and that they are written off when they are of no further use. It treats asset accounts in a diametrically opposite manner from the way they are treated in business accounting. They are not depreciated, and, of course, no reserves are set up for depreciation.

The thirteenth principle maintains that fund accounting should *control*. It does not say that depreciation should never be taken. In case that an asset, say, a transportation truck, should be depreciated, a corresponding fund should be

established and the amount of the depreciation in cash should be put into this fund.

It is generally considered a dangerous policy for a public institution to accumulate large cash funds.

PLANNING FOR NEW SCHOOL BUILDINGS WITH GRAPHIC RECORDS

(Concluded from Page 48)

point obviates frantic scrambles for data when an emergency seems to be arising in which the superintendent of schools, or the board of education, demands information concerning a specific situation.

A SCHOOL-BUILDING-SURVEY WORK SHEET

(Concluded from Page 57)

PROBLEM VIII. ARE THE BUILDINGS ECONOMICAL IN DISTRIBUTION OF FLOOR AREA?

Data Needed: (1) Per cent of floor area in the corridors?

Source of Data: Floor plan of the buildings.

Way to Present Data: Compute from floor plan, per cent devoted to each purpose, and compare with the standard. Tables showing distribution. Use bar graphs to compare with N. E. A. standards.

PROBLEM IX. ARE THE PRESENT BUILDINGS UTILIZED TO THEIR CAPACITY?

Data Needed: (1) Capacity of each room in each building. (2) Number of pupils in each room in each period. (3) Utilization calculated by the use of the Strayer-Engelhardt and Morphet School-Building forms.

Source of Data: (1) Calculation from floor area. (2) principal's records. (3) Application of the score card.

Way to Present Data: Tables and charts of the room and pupil-station utilization.

BONDING VERSUS PAY-AS-YOU-GO—I

(Concluded from Page 38)

"It is in this fact, that money is worth 4½ per cent to some people and 6 per cent to others, that we have the answer to our question."

It seems evident that if a community must pay more for its loans than its own money is worth, then it is less expensive to make use of its own money. Take the case of an individual who has his money invested at 4½ per cent. He must pay six per cent for a loan. He wishes to buy a house; obviously the less costly thing for him to do is to use his own money. But, on the other hand, suppose his money is invested at 6 per cent, and he can borrow at 4½ per cent. Surely borrowing is the cheaper method for him.

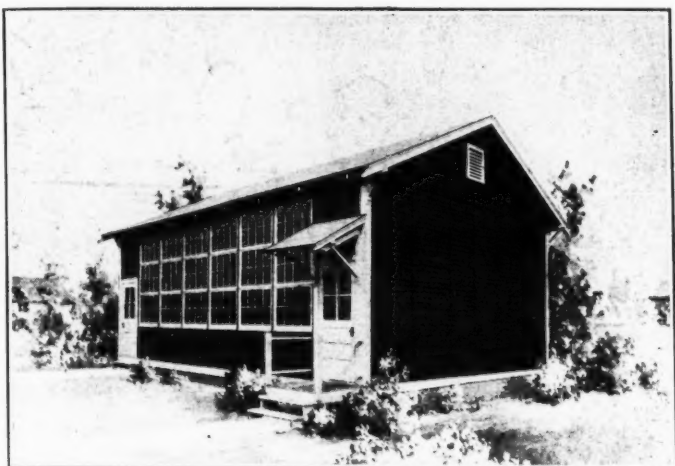
It is conceivable that in some communities money is worth less than the interest rates on the municipal bonds of those same communities. Here the pay-as-you-go plan is the less expensive method of financing public improvements. In other communities money is worth more than the interest rates on their own bonds. Here bonds are less expensive.

It is admitted that this argument is largely theoretical. For, what *is* money worth in a particular community? Someone can make a real contribution to the field of public finance by developing a technique that will answer this question.

Ethics of Taking the Taxpayer's Money

There is an important ethical consideration involved in this controversy that should not be overlooked. Regardless of how much money is worth to the taxpayer, the fact remains that it is still *his* money. Is it fair and just for the administration to take a certain amount of money from the taxpayer on the pay-as-you-go plan regardless of its worth to him, when, by issuing bonds, it could allow him to have the use of much of that money for a number of years? An analysis of the factors that make the construction of new buildings necessary shows that the administration *does* have a just claim on the taxpayer's money under the operation of the pay-as-you-go plan, as will be shown in the following discussion.

(Concluded on Page 111)



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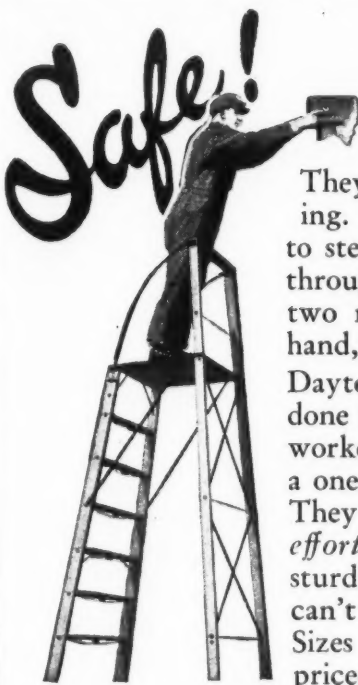
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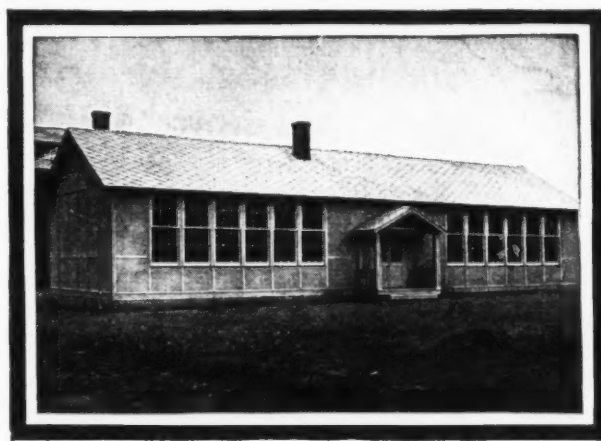
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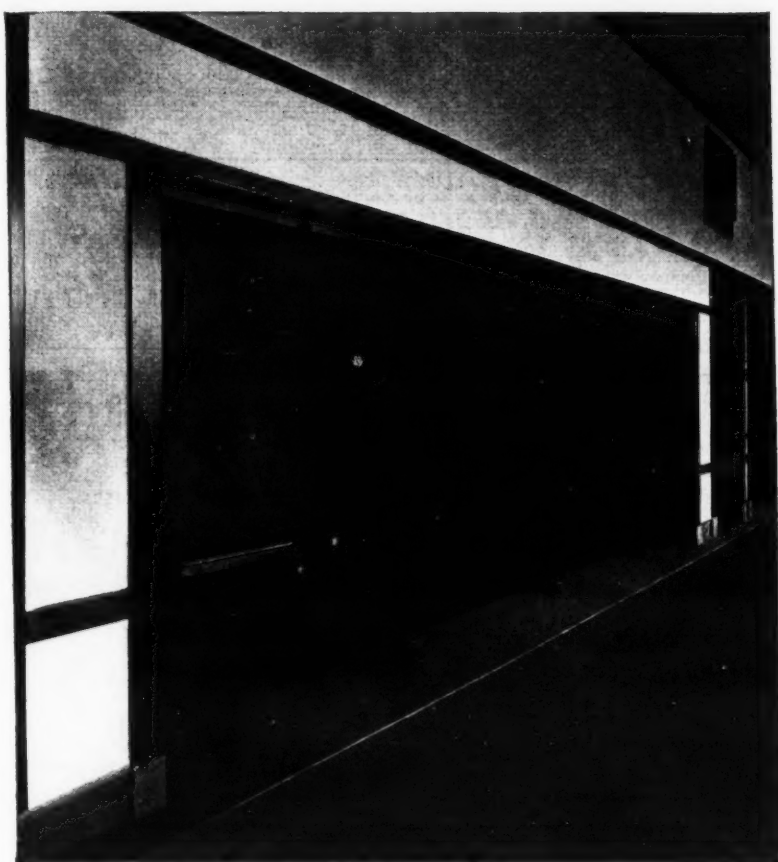
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(Concluded from Page 108)

The factors that make the construction of new buildings necessary are school population growth and depreciation and obsolescence.

For every additional child enrolled in the schools, the district will sooner or later have to provide building space and equipment to meet his needs. In the smaller cities and villages where the increased enrollment is not large enough to require a new building or addition every year; it is difficult to realize that this cost is accruing annually.⁸ Take, for example, a community where the school population is increasing 25 pupils a year on the average. Manifestly, the community cannot erect a new building or construct an addition to an old building each year to provide for 25 pupils. Instead, the city may be redistricted every few years in order to provide an equitable distribution of the new pupils among the various school buildings. Greater stress will be placed on more complete utilization of existing housing facilities; classrooms will be crowded more than they have been. In some such manner the increase in school population will be taken care of until the school authorities feel justified in building an addition to one or more buildings or in constructing a new schoolhouse. It may so happen that such construction will be necessary only at long intervals.

Depreciation and obsolescence operate in quite a similar manner. As soon as a building is constructed it begins to depreciate. Nothing is more certain or more regularly recurring. Obsolescence is not so certain; it depends upon the rapidity of the change in educational thought and procedure. Nevertheless, obsolescence as well as depreciation must be considered as annual accrual cost.

⁸Rainey, Homer P., *Public School Finance*, The Century Co., New York, 1929, p. 56 f. Rainey gives an excellent discussion of the annual accrual costs of extension.

In a small community, as in the case of school population growth, it is difficult to realize that this cost is accruing annually. Despite depreciation and obsolescence a school building can be, and usually is, used from forty to a hundred years. In a small community, then, expenditures for school buildings that will replace old ones are necessarily of a nonrecurrent extraordinary nature.

It will be evident from this discussion that the growth of school population and depreciation and obsolescence represent annual costs just as much as do the services of teachers. But because they do not entail actual expenditures at the time of their inception, except in our larger cities where building is an annual affair, this fact is frequently not realized.

Since these costs are accruing annually, a community would, on this basis, be justified in levying an annual tax for a building reserve in anticipation of future building.⁹ This is rarely done, however. Most cities wait until the cumulative effect of these factors necessitates a new building and then arrange to finance the costs entailed. Since these costs have been accruing for a period of years, and since taxpayers have been permitted to keep the taxes that the administration had the ethical right to collect in the preceding years, there is no unfairness or injustice in taking money from the taxpayer on the pay-as-you-go plan.

⁹This must not be construed as an advocacy of the capital reserve. Other factors must be considered.

JOLIET TOWNSHIP HIGH SCHOOL AND COLLEGE ADDITION

(Concluded from Page 56)

ceilings, three bookkeeping rooms, two classrooms, a departmental office, and a model office. These rooms seat forty pupils comfortably.

The mechanical-drawing-department rooms are in two tiers of three rooms each. Partitions

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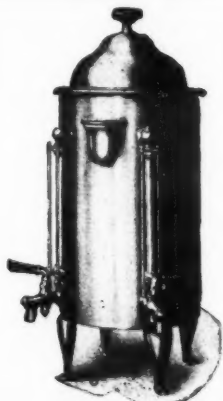
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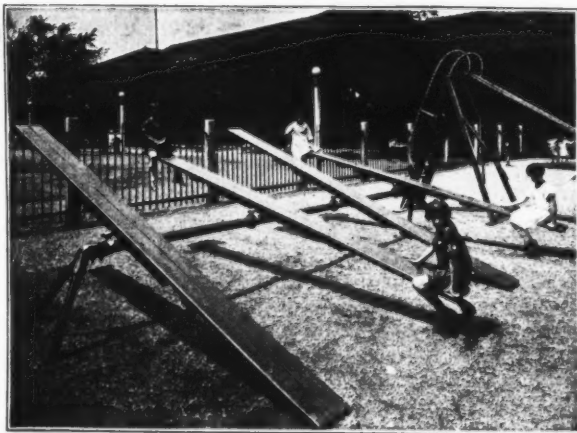


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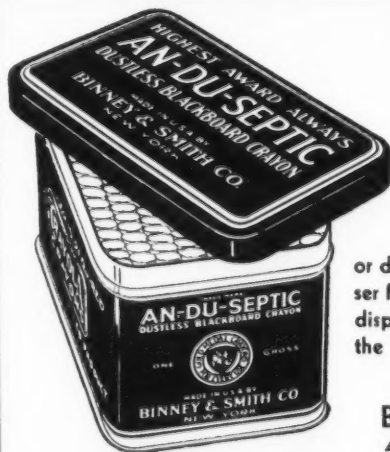
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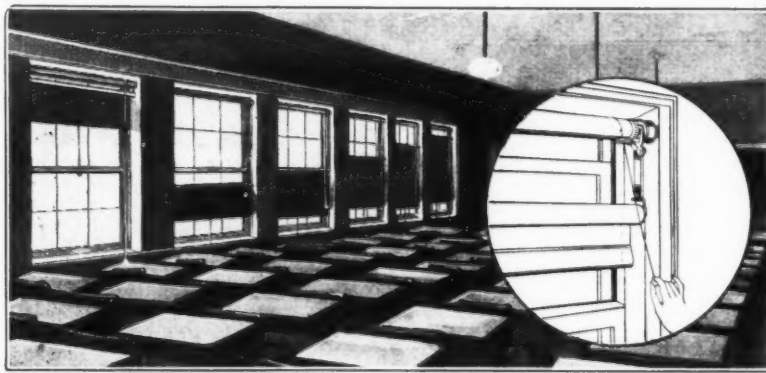


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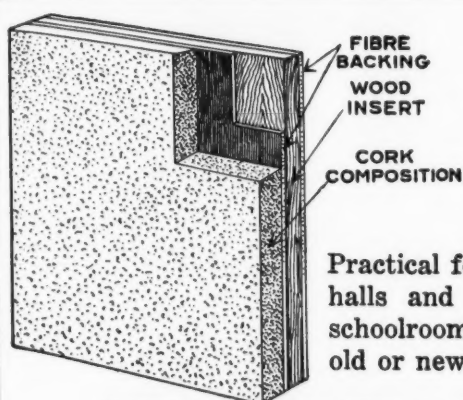
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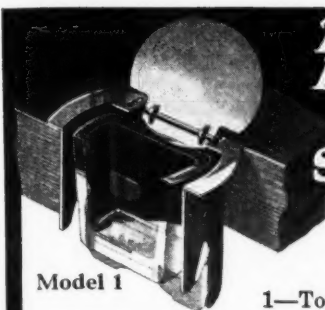
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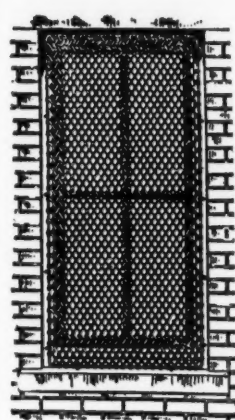
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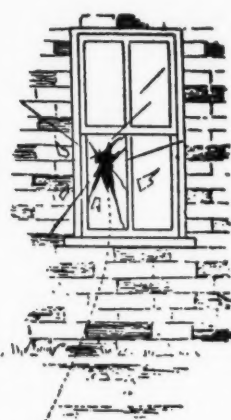
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One of the urgent problems in schoolhouse design, as well as in efficient school maintenance, is suitable flooring for corridors and school classrooms; floors that will be durable, that can be economically maintained, that can be easily cleaned and kept sanitary, that are quiet in service, and pleasing in appearance.

Various grades and styles of tile and terrazzo are entirely satisfactory in certain locations, but have their limitations in other places. A wide range of linoleums and rubber products have their advantages, as well as their objections. In the long run, however, hard wood is the most popular, as well as the most economical and satisfactory school floor, for the major part of modern school buildings.

Solid-wood flooring has been used from time immemorial, partly because of the universal prevalence of trees and lumber as a raw material, partly for its easy-working qualities and partly for its comfort and beauty. That it has certain limitations is evidenced by the development and growth of other flooring materials. Some of the substitute materials have made progress by able promotion, rather than by intrinsic worth, and the manufacturers of wood flooring have come to realize the need of research development in their products and processes.

A wood floor has the indorsement of the ages, but the present generation of school executives is not afraid of shattering traditions. Hence, the current querying attitude toward wood floors of more efficient types, as well as more adequately maintained floor surfaces.

With a clear recognition of the progressive attitude of the school authorities and a sincere appreciation of the principal shortcomings of ordinary hardwood flooring, the executives of the United Plywood Corporation at New Albany, Ind., undertook a research program to find a better schoolhouse flooring. The research activity was of the applied or practical type, as contrasted with fundamental or pure research. School flooring was only one of the objectives, since the principles that make a satisfactory school floor will make other flooring of equal merit. However, the annual normal construction of fifty million square feet of floor area in schools offers a tremendous market that requires intelligent approach, as well as warrants intensified research.

Limitations of Present Types of Wood Flooring

School flooring having been selected as a field of activity, the next step was to investigate the major shortcomings of the principal existing types of wood flooring that were available to the buying public. They were found to be as follows:

A. The shrink, swell, warp, and wind of ordinary solid lumber flooring, requiring that it be laid in relatively narrow strips, to avoid conspicuous curling and insanitary cracks in the boards when the rooms are artificially heated.

B. The unreasonable cost of laying narrow-strip flooring with excessive amount of nailing.

C. The unpleasant squeaking of ordinary wood flooring, caused, it was discovered, by the splitting of tongues or grooves or both. This resulted in looseness around the nails, and made a springy floor when walked on.

D. The high cost of scraping, sanding, and applying finish, as well as the poor quality of finish applied on floors laid under modern construction conditions with unfavorable temperature and humidity conditions, and inevitable dust and damage.

E. The nearly prohibitive cost of laying parquetry floors in single blocks, in addition to the above difficulties common to both strip and parquetry flooring.

Results of Research

The five principal limitations of the present styles of hardwood flooring, enumerated above, were the definite objectives to overcome in developing the improved flooring, with such accompanying benefits as might be incidental thereto.

A. Constant Dimensions

The shrink, swell, and twist of solid lumber have long been successfully overcome in the making of furniture and cabinets, writing desks, beds, and panels, through the use of plywood construction,

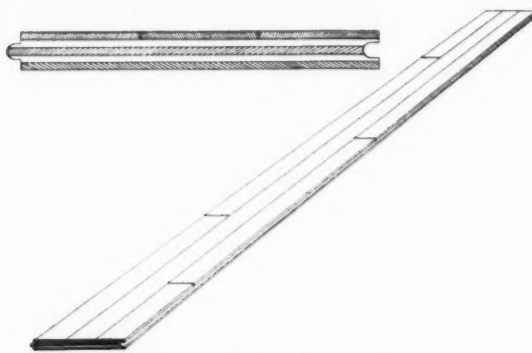


FIG. 1. MAPLE STRIP FLOORING
Five-ply construction in cross section above and a whole plywood flooring board below. Note segmental faces to eliminate twist and laminated construction of tongues and grooves.

and plywood manufacturers had conclusive experience in that direction. The hard usage and wear to which all floors are normally subjected, put standard plywood with its thin veneer faces out of the question, but the fundamental principle of plywood cross laminations had been adequately demonstrated to neutralize the normal shrink and swell of wood, or at least to reduce these variations to a practicable minimum.

Government laboratories have repeatedly demonstrated that, pound for pound, well-designed plywood is stronger than steel. It was necessary, therefore, to develop a type of flooring in plywood that would have a thick enough face to withstand hard wear, as well as cross plies of sufficient stability to prevent side warping, and still have adequate lengthwise strength in the face and back.

The result of extensive experimenting and rigorous tests under all conditions proved: that a segmental sawn-lumber face, made of narrow strips and frequent butted ends, would destroy the stresses and strains of long, wide boards and thus eliminate the twisting tendency from the face, and use up the face lumber economically; that the single or duplex cross plies must not be less than an aggregate of $\frac{1}{4}$ in., with equally thick longitudinal members in one or two units; and that the face must approach $\frac{1}{4}$ in. thickness to provide an adequate wearing surface. This resulted in a balanced 5-ply construction with three lengthwise members, the normal direction of lumber strength, and two crosswise members, firmly glued, to prevent changing widths and to keep the boards from warping sidewise.

Thus 5-ply laminated flooring, with faces of close-textured, dense, hard maple, and backs and cores of chestnut or poplar (with their well-known inert properties and gluing qualities) resulted in a plywood construction of adequate strength and adequate balance.

A water-resistant glue, like casein (designated by the U. S. government for airplane plywood), produced an adhesive joint stronger than the natural bond of the wood fibers, that will tear apart in the wood, rather than separate at the glue joint. The machining operations will slightly reduce the thickness of face and back, but still leave a sturdy strip of flooring $\frac{5}{8}$ in. thick. This type of plywood floor fabrication and the resulting floor boards are shown in Figure 1.

B. Reducing Nailing Expense

In order to overcome the excessive laying and nailing cost, it was demonstrated by a series of tests that plywood flooring, as described above, could be made up to 6 in. wide and blind-nailed through the tongue, thereby reducing the actual laying cost to less than half that of the $2\frac{1}{4}$ -in. wide solid-strip flooring and to approximately a quarter that of a $1\frac{1}{2}$ -in. solid-strip flooring.

The 6-in. plywood floor boards, blind-nailed every foot (two nails per square foot) with extra-large bodied, high-carbon-coated nails, were firm enough to stay in place, and to permit the screwing down of school equipment. The more frequent nailing of narrow, solid boards (six to ten nails per square foot) was found to be excessive, and seldom were school seats attached to more than one board, whether solid or plywood, narrow or wide.

C. Slitting of Tongues and Grooves in Nailing

Reference to Figure 1 will show that the tongue in plywood flooring is 3-ply and the upper and lower grooves are both 2-ply. It is well known that plywood cannot be split across a glue joint. Tests proved that when lifting plywood flooring from a pine subflooring, each sloping nail held up to 75 pounds' direct pull and the nail came out with the floor; when nailed to a hardwood plug in concrete, the individual nail power was 150 pounds. In no instance did either tongue or groove show any sign of splitting. A challenging test of the nonsplitting quality of plywood flooring is shown in Figure 2, in which 40d spikes were driven into

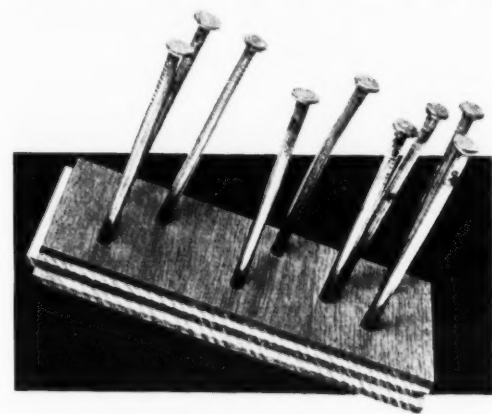


FIG. 2. PLYWOOD DOES NOT SPLIT
A section with 40d spikes driven in without predrilling.

2-in. lengths of flooring without predrilling of holes, resulting in neither splitting of wood nor breaking of glue joint.

D. Prefinishing Flooring at the Factory

An important problem was prefinishing the flooring at the factory before laying it. Furniture has long been so prefinished before sale and installation, and why not flooring? Plywood flooring, made in standard widths and lengths, as described in the foregoing, tongued and grooved on edges and ends, can be laid with practically no cutting, except at the sides and ends of each room. The only nailing required is the blind-nailing through the plywood tongue, and that, in the hands of skillful workmen, need not harm the finished surface. Therefore, the problem of prefinishing becomes one of determining the best finishing materials under a series of standard tests, and devising a progressive chain conveyor in the factory to carry flooring boards past the various mechanical application stations and through a series of dryers to a final rubbing and mixing station.

Prefinishing, however, is only one feature of plywood flooring, and it can be supplied unfinished, if desired, thus permitting any type of oil or wax finish that the school authorities desire.

E. Popularizing Parquet by Reducing Its Cost

The problem of reducing the cost of parquetry flooring was the final problem, and required another series of demonstrations to develop an application of plywood-construction principles that will give a similar stability and laying economy to this more attractive type of decorative flooring, a type especially suited to administration rooms and offices. The rectangular parquetry faces of artistic and colorful woods were noncontinuous and required balancing cross bands for the crosswise as well as the lengthwise square faces. The answer proved to be a 3-ply balanced foundation with a superimposed parquetry face, thus providing the necessary counterbalancing for the transverse-face

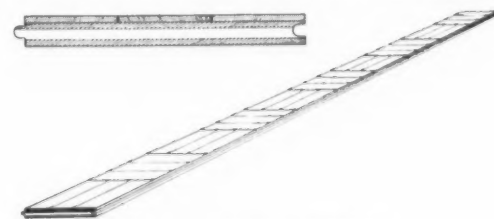


FIG. 3. PARQUET FLOORING
Rectangular 4-ply parquet.

squares, and still preserving the stiffness of the cross core used in the strip flooring. This 4-ply construction, shown in Figure 3, obviously brings an even greater advantage to parquetry flooring than does plywood construction to the strip floor-

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PENCILS
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Sheaffer Pen Company, W. A.

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Wickwire Spencer Steel Company

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Lincoln-Schluter Floor Machinery Co.
Vestal Chemical Company

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Multi-Selecto Phonograph, Inc.
Western Electric Co.

PUMPS—Vacuum, Condensation, Centrifugal, Sump
Nash Engineering Co.

RACKS, GYM, BASKET (STEEL)
Durabilt Steel Locker Co.

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Westinghouse Electric & Mfg. Co.

RECORD SYSTEMS
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REPRODUCTION SYSTEMS
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Western Electric Company

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Horn Folding Partition Co.
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Wilson Corp., Jas. G.

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Standard Electric Time Company
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Hoffmann & Billings Mfg. Co.
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N. Y. Silicate Book Slate Co.
Weber Costello Company

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SMOKE SCREENS—METAL SASH
Butler Manufacturing Co.

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SOUND PICTURES
Electrical Research Products, Inc.

SOUND SYSTEMS
Electrical Research Products, Inc.
Multi-Selecto Phonograph, Inc.

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STAFF LINERS
Weber Costello Company

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Electrical Equipment Co.
Tiffin Scenic Studios

EQUIPMENT AND SCENERY
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Universal Scenic Studios, Inc.
Volland Scenic Studios
Weiss & Sons, I.

STAIR TREADS
Alberene Stone Company
American Abrasive Metals Co.
Norton Company
Sanymetal Products Company

STATIONERY CABINETS (STEEL)
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STEEL CHAIRS
Angle Steel Stool Company
Royal Metal Mfg. Company

STEEL JOISTS
Truscon Steel Company

STEEL LOCKERS
Berger Manufacturing Co.
Durabilt Steel Locker Co.
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Medart Mfg. Company, Fred
Narragansett Machine Co.
Northwestern Steel Products Co.

STEEL STORAGE CABINETS
Angle Steel Stool Company
Berger Mfg. Co.
Durabilt Steel Locker Co.
Lyon Metal Products, Inc.
Medart Mfg. Company, Fred
Northwestern Steel Products Co.

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Royal Metal Mfg. Company

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Iron Fireman Mfg. Co.

TABLES
Kewaunee Mfg. Company
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Mutschler Bros. Company

Remington-Rand Business Service, Inc.
Sheldon & Company, E. H.
Standard School Fixtures Co.
Welch Mfg. Co., W. M.

TABLETS—BRONZE
Russell & Sons Co., Albert

TEACHER AGENCIES
Natl. Association of Teacher Agencies
Teacher Agencies Directory

TEACHERS' CABINETS (STEEL)
Durabilt Steel Locker Co.

TECHNICAL PAINTS
Sonneborn Sons, L.

TELEPHONE SYSTEMS
Automatic Electric Company
Graybar Electric Co., Inc.
International Business Machines Corp.
Standard Electric Time Company
Western Electric Company

TEMPERATURE REGULATION
Johnson Service Company
Powers Regulator Company

TENNIS NETS
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A. P. W. Paper Company
Palmer Products, Inc.

TOILET PARTITIONS
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Sanymetal Products Company

TOILET SEATS
Brunswick-Balke-Collender Co.

TOOL CABINETS
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TOWELS
A. P. W. Paper Company
Brown Company
Palmer Products, Inc.

TYPEWRITERS
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Spencer Turbine Company, The

VACUUM PUMPS
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Sloan Valve Company

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Nelson Corp., The Herman

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Sjöström Co., Inc., John E.
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Park, Winton & True Co.
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Richards-Wilcox Mfg. Company
Wilson Corp., Jas. G.

WARDROBE CABINETS—STEEL
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WASTE PAPER BASKETS
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Northwestern Steel Products Co.

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WATER PURIFIERS
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Wallace & Tiernan, Inc.

WATERPROOFING
Sonneborn Sons, L.
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Detroit Steel Products Company
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Truscon Steel Company
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Williams Pivot Sash Company

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ing. Parquetry flooring, that can be laid in long boards, means a revolution in the industry that has always been accustomed to install parquetry in unit blocks and opens an entirely new field to this attractive product.

Many distinct advantages made their unexpected appearance from stage to stage of the development, adding much zest and interest to the research problem. One of these was the wide range of combination parquetry and strip-pattern panels which can be developed from short lengths with artistic and pleasing results.

Anchoring Plywood Floor to Concrete

An innovation in anchoring hardwood floors to concrete is shown in Figure 4. This process is a

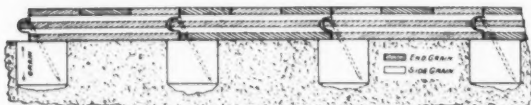


FIG. 4. ANCHORING PLYWOOD FLOORS TO CONCRETE. An efficient method of attaching plywood floor to concrete for better mechanical bond. Saves approximately 3 in. vertical space.

distinct improvement over laying in mastic, since it is less untidy and makes a stronger mechanical attachment. Holes are drilled in the seasoned concrete with a 1-in. electric star drill, and these holes plugged with a 1 1/8-in. square walnut plug driven down flush. The concrete and plugs are thoroughly coated with a waterproof asphaltum paint, or covered with an inexpensive roofing on which the plug locations are clearly marked. Of course, the concrete subfloor is laid out accurately in 6-in. zones (the width of the flooring boards) before drilling for plugs. The flooring is then blind-nailed into the plugs with a nail angle of approximately 45 degrees. Actual tests show that 1,000 pounds' pull is necessary to withdraw these plugs, and approximately 200 pounds to withdraw a flooring nail driven at the above angle into the plug. This strength greatly exceeds nailing into a pine subfloor.

When all conditions are favorable, mastic makes a good bond, but many and varied difficulties are likely to impair its efficiency. The laying of a solid wood or plywood floor on a wood subfloor on wood screeds requires approximately 1/4 ft. extra height per story and is more expensive in labor and material than either anchoring with plugs or laying in mastic.

In new schoolhouse construction these plugs may be set in the wet concrete or the subfloors may be drilled after the concrete has seasoned.

Buyers' News

Casmire Patent Upheld. The U. S. District Court at Peoria, Ill., has upheld the validity of the patent of the Casmire process for renovating school desks. The decision of the court, which upheld the position of the National Renovating and Supply Company, of Kansas City, Mo., against an infringing manufacturer, determines the basic rights of the Casmire process, which consists of dipping school desks into a vat of heated alkali for the purpose of removing paint, varnish, and adhering accumulations of dirt.

The Casmire equipment and cleaning materials for desk renovation are handled by school-supply jobbers in various sections of the country.

American Seating Company Moves. The American Seating Company has removed its general executive offices from Chicago to Grand Rapids, Mich. The complete sales and service office will be maintained in Chicago as in the past so that school authorities will be assured of the same careful and complete attention to their requirements as in the past.

The removal of the executive officers to Grand Rapids is in the direction of greater efficiency and closer contact between the executive heads of the firm and the manufacturing department.

DeVilbiss Company Announces New Locations of Sales and Service Branches. The DeVilbiss Company, Toledo, Ohio, has announced a change in location of two of their sales and service branches.

The St. Louis branch has been moved from 1903 Washington Avenue to 1837 Washington Avenue, St. Louis, Mo. The New York branch has moved from 25 West 43rd Street to 25 West 45th Street. A complete line of spray-painting and spray-finishing equipment, accessories, and hose is on display at these branches.



THE NEW CAR-NA-VAR FACTORY AT BRAZIL, INDIANA

Continental Chemical Occupies New Factory. The Continental Chemical Company has occupied its new factory located at Brazil, Ind. The building occupies 95,000 sq. ft. of floor space and was erected at a cost of \$400,000.

With its enlarged facilities, the firm is in better position to keep pace with the growing demand for the Car-Na-Var chemical products. The firm was established about twelve years ago in a small garage in the rear of the home of the father of Mr. James Longshore. The products of the company at that time consisted of soaps, disinfectants, insecticides, and floor oils. In 1922 a liquid floor wax was developed. In 1925, a method was devised for combining floor wax with Car-Na-Var for use in floor treatments. Two years later, a substance called Rubber-Var was produced for use in keeping rubber and asphalt floors in good condition. Car-Na-Var has been approved for use on linoleum floors and is one of the three treatments officially approved by the association of hardwood floor manufacturers.

At present, the firm manufactures a wide variety of floor fillers and cleaners which have been developed from time to time as accessories to Car-Na-Var and Rubber-Var. Recently, a new product called Luster-Var has been produced for cleaning, which dries bright without polishing. The firm maintains 33 branch offices and 23 warehouses at various important points in the country and employs a sales organization of 107 men, as well as two subsidiaries.

TRADE PUBLICATIONS

Modern School Seating Catalog. The Steel Furniture Company, Grand Rapids, Mich., has issued its new catalog No. 31, describing and illustrating its latest line of modern school furniture, including study-hall, lecture-room, auditorium, and classroom seating. The catalog shows a wide range of present models of school furniture representing improvements and refinements in design which will appeal to educators as most practical and desirable.

School officials who are interested may obtain complete information and prices upon request.

Whale-bone-ite Toilet Seats for Schools. The Brunswick-Balke-Collender Company, of Chicago, manufacturers of toilet seats for schools, have issued a brochure entitled *Install Them Once, They Last Forever*.

The pamphlet describes the construction and advantages of the Whale-bone-ite seats, which are unbreakable, do not crack, split, or warp, and are abuse-proof. They are constructed to maintain a permanently glass-smooth surface which is sanitary and easy to clean. With a minimum of care, Whale-bone-ite will remain bright, clean, and sanitary. The pamphlet lists a number of schools and other public buildings in which Whale-bone-ite seats have been successfully installed.

Complete information and prices will be sent to any school official, or architect, who will write to the Brunswick-Balke-Collender Company at 623 South Wabash Ave., Chicago, Ill.

American Seating Company Issues New Catalog of School Furniture. The American Seating Company, 14 East Jackson Blvd., Chicago, manufacturers of school furniture, has just issued its Catalog No. 264, describing and illustrating its latest line of school furniture. The booklet lists the American Universal adjustable desks, the American Steel adjustable desks, the American Steel adjustable pedestal desks, the Moulthrop and American Steel movable desks, tablet-arm and pedestal chairs, teachers' and typists' chairs, kindergarten comfort tables and chairs, the Universal all-purpose tables, library and cafeteria tables, and a full line of auditorium and assembly-room chairs.

A copy of the catalog will be sent to any school official upon request.

TRADE PRODUCTS

New Vulcan Heavy Duty Range. The Standard Gas Equipment Corporation, 18 East 41st Street, New York, N. Y., has recently announced a new all-hot-top gas range which marks a distinct advance in heavy-duty cooking equipment. The range, which

has a smooth front, is equipped with fully insulated ovens which are lined with heavy, durable metal. Complete oven-heat control is provided which is especially useful for controlling baking and reducing fuel costs. Top cooking can be done faster and more easily with the new range by means of larger tops and concealed flue pipes and improved burner construction. The ranges may be had in monel, aluminized, and other rustproof metals. Complete information and prices will be sent to any school authority.

Talking Pictures for Classroom Use. The Electrical Research Products, Inc., 50 Church St., New York, N. Y., has announced the addition of a 16-mm. sound-on-disk talking-picture equipment to its line of Western Electric sound systems. The equipment, which has been designed especially for schools, is suited for the classroom.



THE NEW WESTERN ELECTRIC SOUND-PICTURES PROJECTOR

The equipment consists of a sound projector and a combination amplifier and loud-speaker, which are capable of being moved from room to room, or carried in a conveyance, without damage. Connection may be made to any electric-light socket, and the equipment operates on 110-volt a.c., 60 cycle. Since no acoustic screen is necessary, the pictures may be shown on any type of motion-picture screen, or on a smooth wall.

School Seating for All Occasions. The Maple City Stamping Co., of Peoria, Ill., manufacturers of metal chairs, have issued an illustrated circular, describing the advantages and wide range of uses of Viking all-steel chair No. 200, which is especially suitable for use in school auditoriums, gymnasiums, and other rooms where portable seating is frequently needed. The circular will be sent to any school official on request.



THE VIKING CHAIR

The Viking all-steel chair No. 200 is made in three styles, is comfortable, attractive, nontipping, and long lasting. It occupies little floor space, folds easily, gives long, economical service, and is guaranteed as to materials, workmanship, and operation. By means of clamps, a number of chairs may be clamped for maintaining permanent seating arrangements and for quick handling in cleaning floors.

Offices Consolidated. The various sales offices and warehouses of the Armstrong Cork Company at Cincinnati, Ohio, have been consolidated at 232 West Seventh Street.

NIBROC TOWELS

REG. U. S. PAT. OFF.



FIGURE IT OUT / FOR YOURSELF!

Nibroc Towels are the most satisfactory and economical drying device schools can use. One package—250 Nibroc Towels will thoroughly dry 250 pairs of hands. School buyers specify Nibroc because by doing so they are able to improve their towel service and at the same time show tremendous savings in their yearly towel costs.

CLEAN—SANITARY

Pupils also like Nibroc Towels. They find them strong, highly absorbent, and kind to the skin. They realize that the Nibroc Towel is their protection against infectious disease germs.

BROWN
Company



FOUNDED 1852

Portland, Maine

C A B I N E T

Clean, dust-proof, an aid to economy, it holds the contents of one package of Nibroc Towels—dispenses them one at a time, making it easy to be economical—locks with a key and measures 10½" x 15" x 3¾".

BRANCH OFFICES

BOSTON	NEW YORK
PITTSBURGH	ATLANTA
CHICAGO	MINNEAPOLIS
ST. LOUIS	SAN FRANCISCO

Canadian Representatives

BROWN CORPORATION, MONTREAL, P. Q.

After the Meeting

PROPERLY RECORDED

Mr. G. W. Grill, of Cleveland Heights, Ohio, who has recently written a book on "Recording School-Board Minutes," says that some secretaries of boards are too great sticklers for accuracy. In California, according to Mr. Grill, the meeting of a school board was so seriously disturbed by an earthquake that the secretary found himself on the street with his minute book before formal adjournment could be voted. In recording the close of the session he wrote the following very truthful sentence:

"Upon motion of the high school, the board of education adjourned."

ENGLISH AS SHE IS WROTE

Teachers grow gray because they must contend with so many queer things which children say and do. The following definitions and statements are taken from an old collection of genuine examination questions collected in the eighties by Caroline B. LeRow:

Alias, a good man in the Bible.
Mendacious, what can be mended.
Republican, a sinner mentioned in the Bible.
I liquidate you from all blame.
He landed safe on vice versa.
Pineapples grow on pine trees.
Columbus was the first white man to discover America.

Mrs. Browning wrote sonnets to the Pottery Geese.

The body is mostly composed of water and about one half is avaricious tissue.

Elocution is opening the mouth wide open.

He was totally dismasted with the performance.
A verb is something to eat.

They were called Puritans because they were more quiet than the Episcopalians.

Knowledge Is Power

A pupil was having trouble with punctuation and was being lectured by the teacher.

"Never mind, sonny," said the visiting school-board president, consolingly, "it's foolish to bother about commas. They don't amount to much anyway."

The teacher then directed one of the pupils to write on the board this sentence: "The president of the board says the teacher is a fool." "Now," she continued, "put a comma after 'board' and another after 'teacher'!"—Capper's Magazine.

Evidently Not an Educator

Nervous Patient: "Will the anesthetic make me sick?"

Doctor: "No, I think not."

Nervous Patient: "How long will it be before I know anything?"

Doctor: "Aren't you expecting too much of an anesthetic?"



Hopelessly Grounded

"Is my son getting well grounded in the classics?" asked the millionaire.

"I would put it even stronger than that," replied the private tutor. "I may say that he is actually stranded on them."

THE URGE TO TEACH

In summer time my bent is clear,
Unmarred by doubt or fog—
I yearn (as is my wont each year)
To be a pedagogue.

From late in June till Labor Day
I am a saddened creature;
I crave to rest two months with pay
— Why wasn't I a teacher?

It moves me to the verge of tears
While on my brief vacation
To think that when I chose careers
I passed up education.

In Christmas week and Easter, too
I yearn with zeal devout
To guide the budding genius through
The ways that it should sprout.

Instruction of the young I call
A very fine profession
— Except in winter, spring and fall
When classes are in session!

— Effbee

To Which We All Agree!

The teacher had been lecturing the kindergarten children on how much better it was to guard against a bad habit while young, pointing out that it was sometimes a struggle to get rid of it later. She concluded by asking: "Now, children, what is mighty easy to get into, but pretty hard to get out of?"

Instantly a hand shot into the air.

"Well, what is it?"

"Bed!" exclaimed Tommy.—North Dakota Teacher.

An Old One

Teacher: "If coal is ten dollars a ton and you pay the dealer seventy-five dollars, how many tons does he bring you?"

Pupil (very bright): "A little over six tons."

Teacher: "You know that is not right."

Pupil: "I know, but they all do it."—Irish Independent.

Boys Will be Boys

Teacher: "James, have you whispered today without permission?"

James: "Only wunst."

Teacher: "Willie, should James have said 'wunst'?"

Willie: "No'm, he should have said 'twict.'"

Inconsiderate Teacher

Parent: "I want you to come to Jack's birthday party Saturday."

Teacher: "I'm sorry, but I have an engagement."

Parent: "My word. What will I do with those twenty-five children?"

Chalk Up Another

Professor: "How many times have I told you to be in class on time?"

Student: "I don't know. I thought you were keeping score."

In Pennsylvania

A country teacher had told the children the story of the Good Samaritan, when a 10-year-old girl interrupted her with the question: "But, teacher, why weren't the state troopers on the job?"

The College "Follow-Up"

"My college certainly takes an interest in its graduates," said Jones.

"How's that?" asked Smith.

"Why, here I get a note from the dean saying he will be glad to hear of the death of any of the alumni."

Teacher: "Who can name one important thing we have now that we did not have one hundred years ago?"

Tommy: "Me."

Too True

Teacher: "What is it that comes in like a lion and goes out like a lamb?"

Mildred: "Father, when he brings home his pay envelope."—The Pathfinder.

Bookmen's Anecdotes and Reminiscences

It was in an early day—say back in the seventies of the past century—that a bookman paid his respects to a school board in the State of Iowa.

The school board consisted of a congenial membership who cultivated the social rather than the strictly educational side of things. A keg of beer was on tap in the next room, and the subjects of discussion dealt with everything under the sun outside of the realm of school interests.

Our friend Leland, the bookman—we call him Leland, because that was not his name—tried to argue his case. He was bent upon a handsome book adoption and not for refreshments or social entertainment.

At last, someone moved that Leland's books be adopted. The chairman of the board was not in a mood to put the question. The motion was repeated, but no action. The morning hours were approaching but still nothing doing. Leland finally arose and in an impressive manner urged the necessity of action, and closed by saying:

"All in favor of the adoption of my list of textbooks, will please say aye!"

The ayes carried. In fact, the chairman also voted aye.

LITTLE CAUSES AND THEIR RESULT

"Among the oddest experiences I ever met with," said an old-time agent whom we will call Vosgard, "was out West many years ago. It illustrates how a trifling matter will grow in importance, or in other words, how the gods will favor at times even a bookman."

"A contest for the adoption of an entire list of books was waged, and I had reached that point where I knew beyond the shadow of a doubt that I was thoroughly licked. It seems that a bevy of book agents stood chatting in the hotel corridor one evening, when my name was incidentally mentioned. A gentleman who had been strolling about leisurely, stepped up and said: 'Pardon me, gentlemen, but did not one of you mention the name Vosgard a minute ago? I knew such a man down East years back and I should like to meet him again.'"

"I advanced, but did not recollect ever having met the man before."

"Mr. Vosgard, you surely must remember me. I taught school in your county in Maryland, when you were a county school commissioner. You helped me to several promotions and finally gave me a scholarship to Princeton College; in brief, I owe much of my present success to you."

"I now recalled the young teacher of many years ago, also the circumstances attending his promotions and his entrance to the college. He displayed great joy at seeing me and immediately inquired into the nature of my present calling, etc."

"Well, Mr. Vosgard," said he, "if I can be of service to you, command me. I am the President of the X.X. Railroad and have a little influence hereabouts."

"After recovering sufficiently from my surprise, I proceeded to submit all my books to him and asked him to satisfy himself as to their educational merit, and if he could conscientiously assist my cause I would be grateful to him."

"He was, as I soon learned, an extremely busy man, but he found time not only to assist me, but to manage my campaign for me. I had to place myself under his advice and instructions. He told me whom to see and whom not to see, where to talk readers principally and where to talk arithmetics, and also where to look wise and say little or nothing. Every man on the school board was his friend, and the peculiarities and whims of everyone were known to him. In fact, he displayed a generalship and knowledge about schoolbooks that put me, who figured among the experienced bookmen, completely to shame."

"My whole list was adopted, and the mere accidental mention of my name in the hotel corridor had done it all."

He Probably Is

Superintendent (puzzled): "Dr. Smith, your late superintendent has worded this letter of recommendation in such a way that I can't tell whether you were a successful teacher or not."

Applicant: "Dr. Smith is a very kind gentleman."

January. February. March. April. May. June. July. August. September. October. November. December

**EVERY MONTH
OF THE YEAR—
MAINTAIN YOUR FLOORS
WITH THE GENUINE**

The Johnson's Wax method is the year 'round economical, efficient method of maintaining floors.

Whether the floors in your building are wood, linoleum, composition, tile, cork—Johnson's Wax will give them longer life and keep them immaculately polished with the minimum of effort.

Johnson's Wax floors never have to be scrubbed. Dirt can't become embedded in such a tough, mirror-like surface.

With the Johnson Electric Floor Polishing machine one person does the work of six scrubwomen and does it much better. The maintenance cost is far less than with the old methods.

- A new 90-page book, 30 illustrations—
"MODERN FLOOR FINISHING"—by F. N. Vanderwalker, Editor of Painting Age. This valuable book explains modern methods of floor finishing, involving the use of entirely new principles and materials. Send \$1.00 for your copy today.



- S. C. JOHNSON & SON, Floor Finishing and Maintenance Authorities, Dept. SJ8, Racine, Wisconsin. Enclosed is \$1.00. Please send me F. N. Vanderwalker's 60-page illustrated book "Modern Floor Finishing."

Name _____
Address _____
City _____
State _____



Main Entrance, Bryant Webster School



Norwest Steel Lockers in the Bryant Webster School, Denver, Colorado. Architect: G. Meredith Musick, Denver.

IF — you Choose by Test — You Will Choose NORWEST!

THE new Norwest Steel Lockers pass every examination with high marks.

You can prove their superiority for your schools by the following simple tests:

Slam the door and notice how positively the locking device acts. The latch catches every time! For in Norwest Lockers, its operation does not depend on gravity alone.

Take hold of the leather silencers at the top and bottom of the latch rod and *try to pull* them loose! They are there to stay and can't even be pried out. Specially treated to prevent drying, they assure efficient, quiet operation for the life of the locker itself.

Run your hand across the face of the door. No rivets or bolts to mar its beauty. No protruding hinges to catch clothing.

Place an obstruction between the door and the locker at the bottom and force the door shut at the top. Remove the obstruction and note how quickly the door springs back into shape. Close the door. The latch catches instantly.

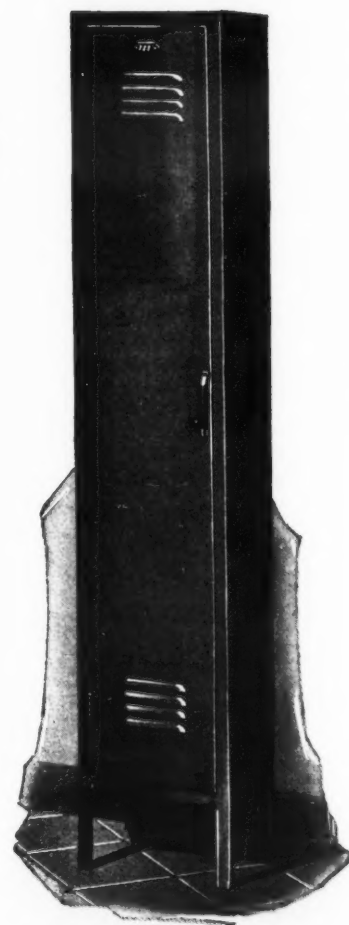
Open the door and *try to jerk the handle* up and down. The automatic control

keeps the latch rod and handle in their intended positions — raised, when the door is open — down, when the door is closed. Students can't rattle the latch rod out of alignment.

Make these tests with Norwest Steel Lockers and other lockers—and your choice will be Norwest! Write for complete facts today!

New Developments of NORWEST Steel Lockers

1. Positive latching.
2. Quieter operation—irremovable, treated leather bumpers.
3. Improved door construction — concealed, full loop hinges.
4. Automatic latch rod and handle control.



NORTHWESTERN STEEL PRODUCTS COMPANY

4545 West Homer Street, Chicago, Ill.

STEEL LOCKERS

STEEL SHELVING

STEEL STORAGE EQUIPMENT



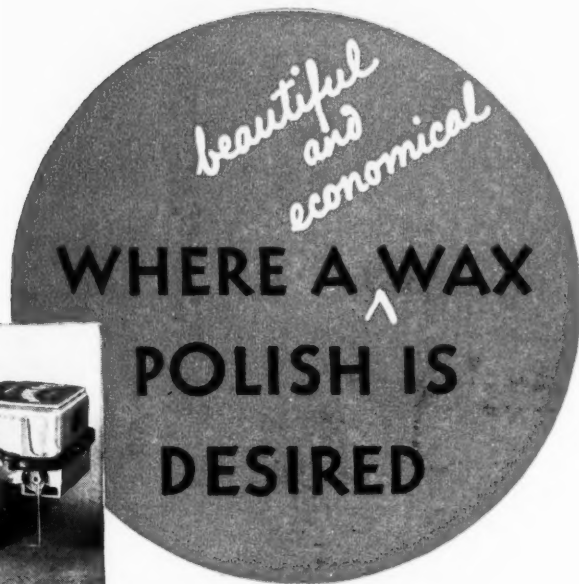
SOLAR-BRITE

Dirt can be scraped off, eaten off with an acid or alkali . . . in fact there are various ways of getting rid of dirt. But the safe and economical way is to dissolve it . . . gently . . . with a pure, smooth, free acting soap. Then the floor may be mopped or scrubbed . . . as preferred.

For either method . . . on floors of all kinds . . . wood, rubber, mastic, marble, etc. . . . SOLAR-BRITE is unexcelled. It is a pure, neutral soap, scientifically compounded from rich, undecomposed vegetable fats. It contains no alkali or other strong ingredients.

SOLAR-BRITE has back of it the experience, resources and reputation of a company which for more than a quarter of a century has served the floor maintenance needs of schools and colleges.

Order a trial drum. Packed in several sizes—5-1' -30 and 60 gallons.



FINNELL-KOTE

More and more, modern schools are polishing floors as a means of preserving as well as cleaning and beautifying them. But the wear and tear on school floors demands more than an ordinary wax—liquid or paste.

FINNELL-KOTE is new. It comes in virtually a solid form and is applied in a melted state. This is accomplished by means of a special electrical dispenser unit. FINNELL-KOTE flows to the floor in a thin threadlike stream. There it is immediately distributed by the brushes and a moment later brought to a durable lustrous finish.

Because of its high solid content, FINNELL-KOTE gives the utmost surface protection. There are no excess oils or thinners to get smeary or slippery. The finish is firm, unusually lustrous and durable. A Finnell-Koted floor or floor covering may be mopped several times without losing its gleaming, protective coat.

Best of all, FINNELL-KOTE does the job in one operation, requiring half the time of former methods. *An important saving!*

A Complete Line of Nine Scrubber-Polishers

Finnell, of course, has long been known for its full line of scrubber-polishers. Nowhere else is so wide a choice obtainable. This is your assurance of the right size and type for your purpose — a consideration vastly more im-



portant than the ownership of a machine. Finnell service for the life-time of every installation.

For full information about Finnell products or Finnell scrubbing-polishing equipment, write FINNELL SYSTEM, INC., 808 East St., Elkhart, Indiana.

FINNELL

SYSTEM

OF FLOOR MAINTENANCE



(above) School equipped with old windows.

(below) After AUSTRAL WOOD
WINDOWS were installed.



(above) School equipped with old windows.

(below) Showing School after AUSTRAL WOOD
WINDOWS were installed.



The AUSTRAL WINDOW COMPANY WISHES TO ANNOUNCE

the establishment of an Engineering and Erection Department, for the express purpose of solving difficult window problems for school buildings. This Department is equipped to undertake contracts for removing old windows, and furnishing all labor and material in replacing them with the Austral Wood Windows.

A guarantee is furnished with each installation.

Reproduced above are two school buildings which illustrate the vast improvement in the architectural appearance of the buildings after the old windows were replaced with Austral Wood Windows.

Estimates submitted upon request.

101 PARK AVE. AUSTRAL WINDOW CO. NEW YORK CITY